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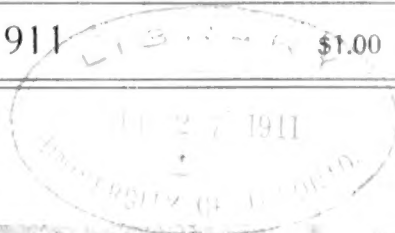
NUMBER NINE

THE CANADIAN HORTICULTURIST

60 CENTS A YEAR

SEPTEMBER, 1911

\$1.00 FOR TWO YEARS



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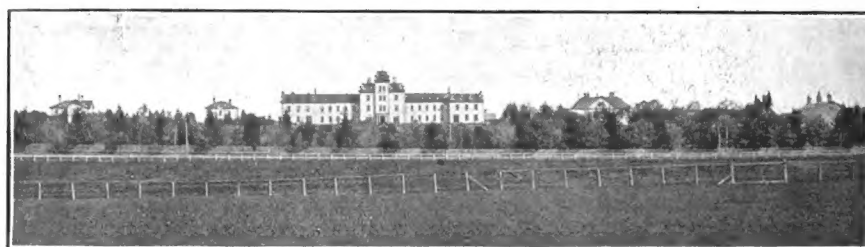
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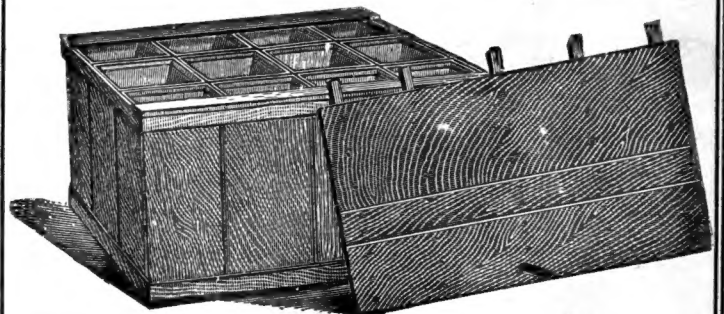
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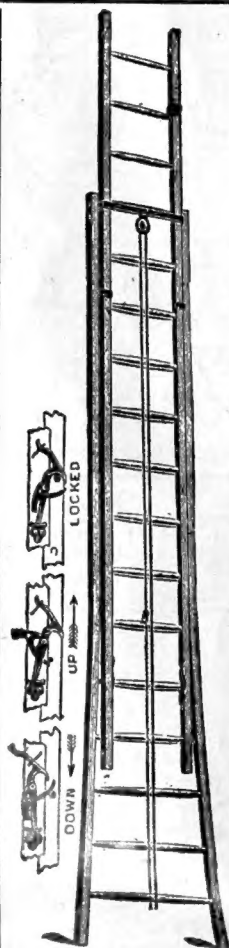
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The Canadian Horticulturist

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Boxed Apples at the New Brunswick Show, 1910 *Cover*

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TALKS ON ADVERTISING

By the Advertising Manager

No. 12

BUSINESS GOING TO WASTE

"Can you tell me where I can get a carload of apple barrels?"—J. H. L., Quebec.

"Can you tell me if a canvas apple picker is made in Canada? I would like to get prices from the manufacturer."—J. P. B., Nova Scotia.

The above extracts from two letters received one day recently, one from Nova Scotia and the other from Quebec, are typical of a class of letters we are frequently receiving from subscribers who wish to learn where they can buy certain articles or classes of goods, but do not know where they may be secured. They naturally turn first to the advertising columns of *The Canadian Horticulturist*, and failing to find the desired information there, write to the publishers.

But for every one who thus goes to the trouble of writing to the publishers for this information, how many, think you, are there who do not think to write, who put the matter off and forget to do it, who buy something else, or for any one of many reasons do not make their wants known?

Or, how many are there who really could make use of a certain article, and would be glad to buy it if it were drawn to their attention, but to whom it has not occurred that it would pay them to buy and use this article? There are many such.

This business, which is in reality a loss to the manufacturers and dealers, would be readily secured did the persons desiring such goods know where they could be secured. An advertisement in the paper or papers read by the greatest number of persons likely to be interested in these goods or who could make good use of them, usually proves the best and cheapest means of securing this business which is simply waiting to be picked up.

Manufacturers or dealers having anything for sale designed for the use of the fruit grower or the amateur or professional gardener, will find *The Canadian Horticulturist* to be the paper which can be the greatest use in securing a large amount of business which would otherwise go to waste. It is the publication in which this class of people are vitally interested, and they naturally turn to its pages when they want to know where to buy anything for use in their orchard or garden.

Then, too, when reading *The Canadian Horticulturist* they are thinking along horticultural lines, and are readily impressed with any suggestions they see in its advertising pages. In many cases it probably did not occur to them that they wanted a certain article until they saw it advertised. Advertising not only secures business from those who actually want the goods but do not know where they may be secured, but will locate many customers who previously may not have been thinking of buying.

The publishers of *The Canadian Horticulturist* are careful to publish only the advertisements of firms such as they believe are thoroughly reliable. This has been the policy of the paper for years. Its readers, accordingly, do not hesitate to patronize its advertisers.

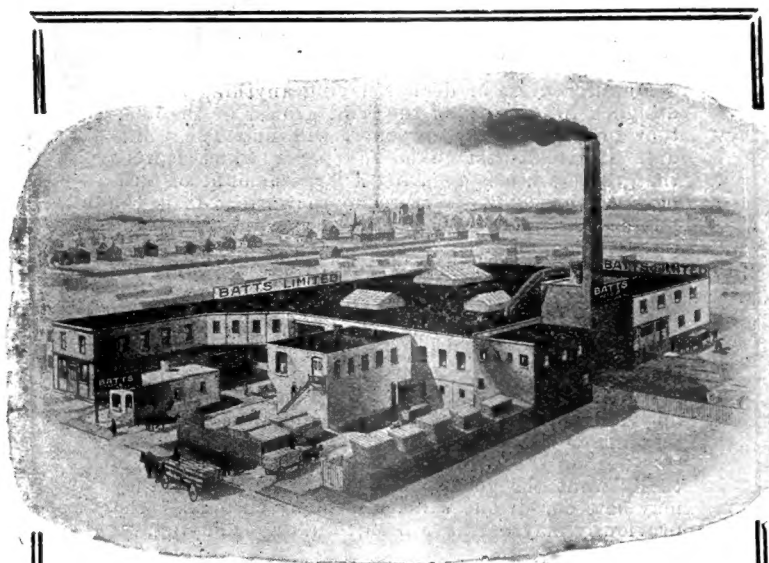
There are many firms and individuals with whom the readers of *The Canadian Horticulturist* would like to do business were they to learn about them through the columns of *The Canadian Horticulturist*. Are you one of them? If so, why not get some of this business, which at present is going to waste?

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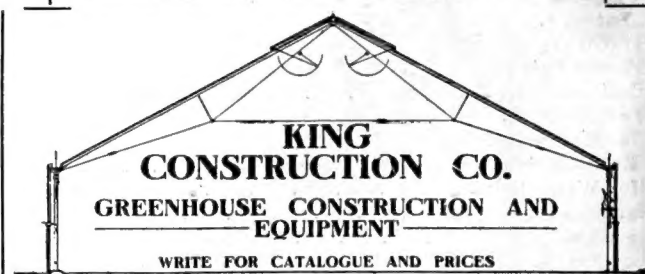
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248 Wellington St. West TORONTO, ONT.

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The Canadian Horticulturist

Vol. XXXIV

SEPTEMBER, 1911

No. 9

The Pre-Cooling of Fruit

J. A. Ruddick, Ottawa, Ont., Dominion Fruit and Cold Storage Commissioner

THE beneficial results of pre-cooling fruit, especially for long-distance shipment, are now so generally admitted and understood that very little needs to be said on that point. For



J. A. Ruddick

early quick-ripening apples and tender fruits, the importance of having the temperature quickly reduced after the fruit is picked and packed, cannot be over-estimated. If warm fruit is loaded into an ordinary refrigerator car, it is several days before the temperature is brought down to the minimum, no matter how much ice is used. For that reason, the fruit must be picked in a green condition and before it has reached its full quality, to allow for the ripening in transit.

Even though the fruit may arrive at its destination in a sound condition, the quality will not be as good as it would have been if it had been allowed to have become more mature before picking. No matter how green certain fruits may be harvested, the distance which they

can be shipped in iced cars without pre-cooling is very limited, if they are to arrive in perfect condition. Pre-cooling increases the distance for safe shipment, and thus extends the market enormously.

The term "pre-cooling" has been somewhat erroneously applied almost exclusively to the method worked out in California for the cooling of loaded cars of fruit and vegetables. Strictly speaking, pre-cooling includes any method of cooling or chilling before shipment, and while there are two or three large car cooling plants in California, there are some half-dozen smaller plants where the pre-cooling is carried out in the packing house. There is no difference in principle, or in the results obtained, other factors being equal, between car-cooling and cooling in a warehouse, but cooling in cars has some decided advantages over the other method, where the conditions permit of its being adopted, or the volume of the shipments warrant the necessary expenditure.

The pre-cooling of fruit in cars is carried out in the following manner. As soon as the cars are loaded, or at least as soon as possible after loading, they are brought to the refrigerating plant and connected to the system with flex-

ible ducts which provide for the passing of a current of cold air through the car. The duct which carries the inlet, or cold blast, is attached to a false door which exactly fits the open door of the car, as is shown in the illustration on page 206. The outlets, or suction ducts, are fitted in the same manner into one of the hatches of the ice bunker at each end of the car. Fans are used on both the inlet and the returns to promote a rapid circulation of the cold air. Canvas baffles are hung temporarily in the car to deflect the air current so as to force it between the packages of fruit instead of passing merely over the surface.

The number of cars which may be cooled simultaneously is limited only by the capacity of the refrigerating plant and the number of connections. The refrigeration required per car is equal to about twelve tons of refrigeration for twenty-four hours; that is to say, if five cars are to be cooled at once, and within a reasonable limit of time, it would require a refrigerator plant of a capacity of sixty tons of refrigeration in twenty-four hours.

With sufficient refrigerating power, cars should be well cooled in four or five hours, including the time required for



A Large Pre-cooling Plant in California Where Twenty-four Cars Can Be Cooled at the Same Time

connecting and disconnecting the air ducts, and filling the bunkers with ice after cooling is finished. The California plants use what is known as the "Intermittent Vacuum System," which is covered by Canadian patents. In this system, there is an arrangement of valves in the air ducts, the operation of which is supposed to create a partial vacuum in the car from time to time, but the writer is of the opinion that a direct current of cold air would be quite as effective in cooling the fruit.

Pre-cooling in cars has the advantage that it saves handling, and the fruit is not exposed to changes of temperature, as it is in being transferred from warehouse to cars. With plenty of refrigerating power, a low temperature can be employed in car-cooling to extract the heat rapidly from the fruit. It is quite safe to employ temperatures below the freezing point while the heat is still in the fruit. A pre-cooled car will carry very much farther without being reiced than one started with warm contents.

The only difficulty in the way of adopting the pre-cooling of cars in Canada is the cost of equipping the necessary plants. This will be prohibitive except in districts where there will be a large number of cars to be cooled.

We must not forget that cold storage or pre-cooling will not do everything, or remove all the difficulties met with in long distance shipment of tender fruit, or in long keeping of the hardier varieties. There has been infinitely greater waste caused by fungus and insect pests than by lack of cold storage, and there is much improvement yet to be made through the exercise of greater care in preventing injuries, such as skin punctures and bruises.

Picking and Packing Pears

W. E. Beman, Newcastle, Ont.

BY way of making conversation, I once said to a man with whom I was talking: "How would you go about picking and shipping a lot of pears?"

He looked at me in surprise for a minute, then replied: "Why, I'd pick them or shake them down; then I'd put them into barrels, nail the head down good and tight, and send them to the nearest market. How else would anyone do it?" I laughed and changed the subject, for I did not have time to go into details just then; but I thought that he surely must be an Irishman, and only accustomed to growing "apples of the earth," as the French call potatoes.

There is no fruit which requires more careful handling in every particular than the pear. In the first place I always instruct my men how to pick, for I have often seen the fruit pulled from the branch and tossed into the basket. This is almost as bad as the Irishman's way of shaking the tree.

Pears should always be turned up, instead of pulled off, and then laid carefully into the basket; for a pear is much easier bruised than an apple, and being very juicy will start to rot much more quickly.

WHEN TO PICK.

Perhaps one of the most difficult things in the handling of pears is to know just when to pick them. It is said that you can tell by turning a pear up, and if it parts readily from the branch it is ready to pick; but I have found that this is not always correct, for some varieties, if left until then, would be too ripe for shipping. In order to reach the market in good con-

dition, a pear must be picked green. This is especially true when shipping in barrels, for pears ripen more quickly in barrels than in small ventilated packages.

It would be very difficult to give an infallible rule with regard to the correct time of picking pears. Some varieties need to be picked much greener than others. Experience is the best teacher on that point. In our orchards we judge a good many of the earlier varieties by their changing from a dark green to a lighter shade, but I know this is a very indefinite rule, and one would hardly become an expert in one season. Winter pears may be left on the tree as long as there is no danger of frost.

BARREL PACKING

While picking is in progress, when the baskets are full, they are emptied into bushel boxes made of slats. It is a good idea to plane off the sharp edges of these slats before making the boxes up in order to prevent the pears from being cut by them.

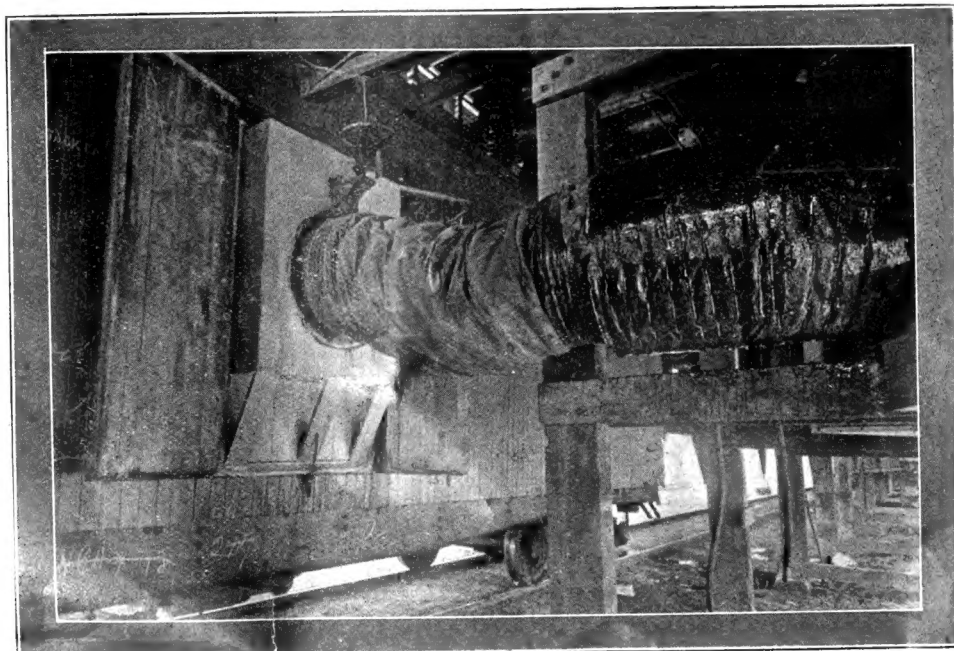
As soon as a load is ready, I draw it into the packing house and unload it, but I let the pears remain in the boxes until they cool off. If pears are packed as soon as they are picked, they will sweat. This will cause them to ripen far more quickly than they otherwise would.

Later, they are emptied on the table and sorted into three grades. The different grades are then put into barrels, boxes or baskets, according to the market to which they are to be shipped. A market where the fruit is all consumed at home usually calls for the smaller packages, while a market which re-ships to smaller points generally prefers the three-bushel barrel.

BARREL PICKING

In facing a barrel, pick out pears of uniform size, avoiding extra large ones, as these would spoil the appearance of the barrel when opened. Starting at the outside edge, lay the pear on its side, with the stem pointing to the centre, and continue in this way until the barrel is faced. Empty the pears in carefully out of the baskets, and shake the barrel gently every few minutes. When heading up the barrel, do not press as tightly as for apples. The pear is a firmer fruit than the apple, and will not give quite as much.

With regard to the grading of pears, it is very important that each grade should be as much as possible of uniform size, for if a few large ones are put into a barrel marked No. 1, it gives the buyer the impression that the pears are not a good sample, the large ones making the others look smaller by comparison.



Cooling a Car, Showing the Method of Attaching the Cold Air Blast to the Car

British Columbia Apple Packs

R. M. Winslow, Vancouver, B.C., Prov. Horticulturist

The four accompanying illustrations furnish an idea of a number of the most common commercial packs of apples used in British Columbia, which has become noted for the high quality of its boxed fruit. They are not intended to show prize-winning or exhibition fruit, but simply to illustrate the different packs.

Illustration number one shows the common three and a half tier packs. The box on the left contains seventy-two apples, packed two and two with five apples in two longitudinal rows and four in the other two. This pack is, therefore, styled a two and two, four and five, seventy-two. The centre pack is exactly the same, but the longitudinal rows are five and five. This gives eight apples more to the box, making a total of eighty. The pack is styled two and two, five and five, eighty. In the pack to the right, two of the rows have six apples instead of five, giving an additional increase of eight apples, making eighty-eight. This is the largest pack styled three and a half tier.

The box to the right in illustration number two is one size smaller than that of the eighty-eight in number one. It therefore contains ninety-six apples, running two and two, six and six. The apples in the centre box are again one size smaller, and run therefore two and two, six and seven, containing one hundred and four. The apples in the left box run still one size smaller, with seven in each longitudinal row. The pack is therefore a two and two, seven and seven, one hundred and twelve.

The box on the right, it will be noted, shows a very neatly finished wrap, which will open out, giving the best impression. The shiny appearance of the paper results from putting the smooth side outwards. This should always be done. The two and two, seven and seven, one hundred and twelve, is a usual and desirable size in dry belt apples. The car-load of Jonathans which won sweepstakes at the National Apple Show in Vancouver was very largely this size. The packs in figure two are all styled four tier.

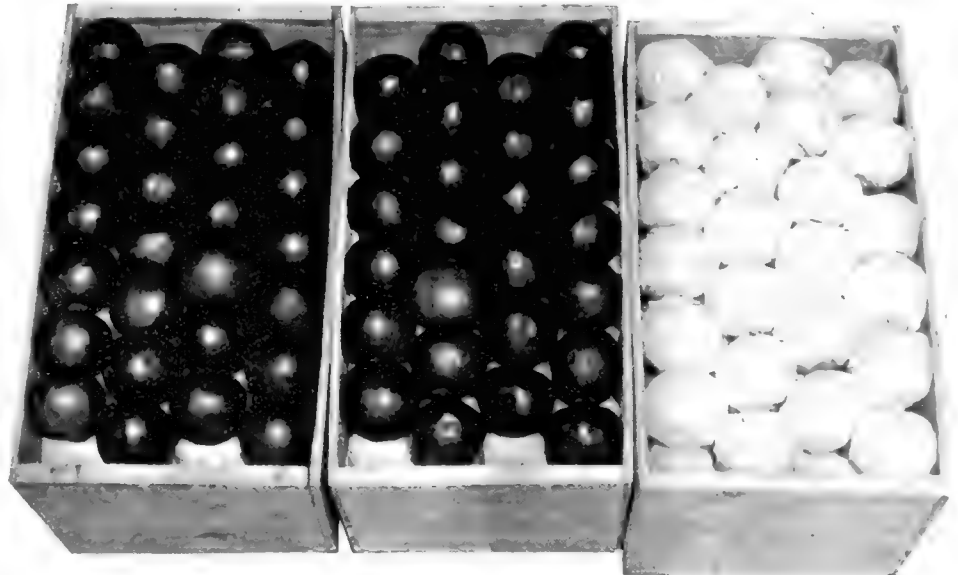
The packs on the right and left in figure number three are the famous two and three open packs, containing one hundred and thirteen and one hundred and twenty-five apples respectively. These packs are displacing the straight four tier one hundred and twelve and one hundred and twenty-eight to the box pack throughout the entire west. They contain practically the same number of apples, and while some objection is raised over their open appearance, this is not so serious with wrapped fruit as with unwrapped, and the carrying

quality of the fruit is much superior. Both of these two and three packs have

five layers of apples, but they are styled four tier because of the number. That



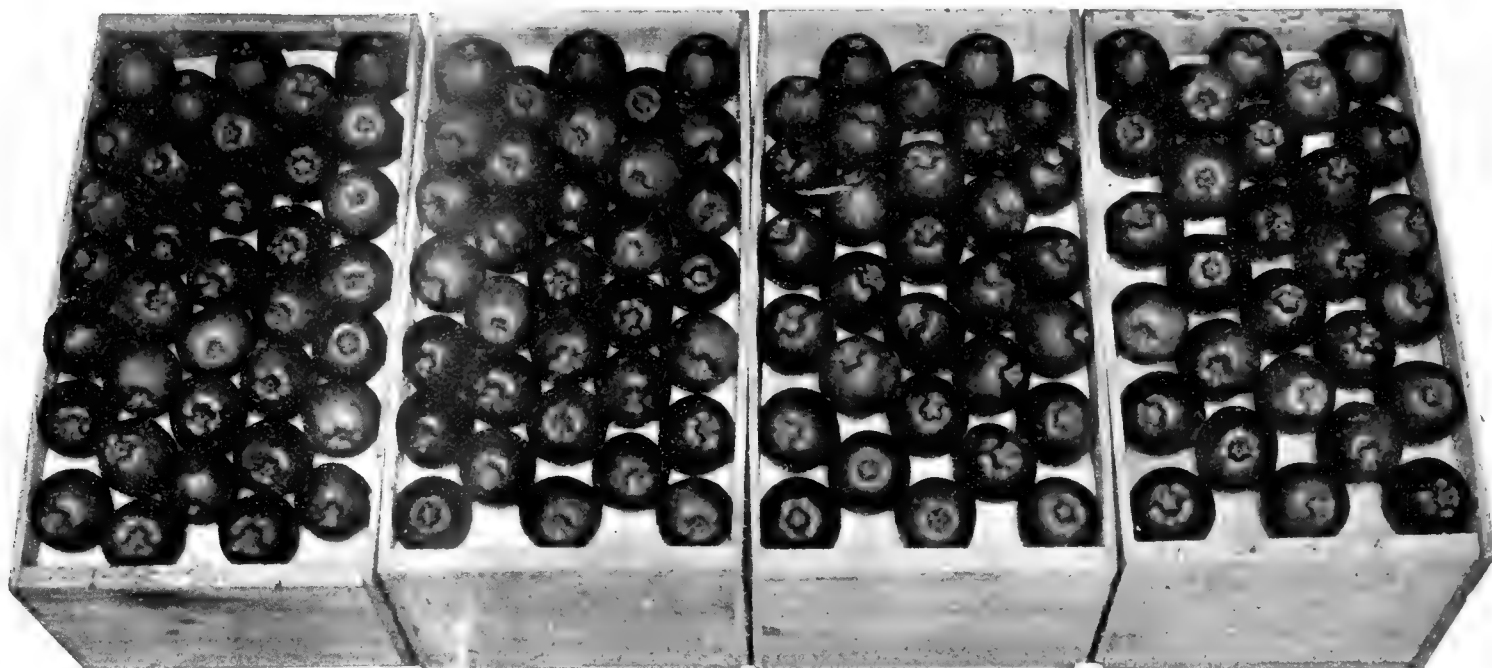
Common Three and a Half Tier Packs.—Fig. 1.



Variations of the Two and Two, Four Tier Packs.—Fig. 2.



Variations of the Famous Two and Three Open Pack.—Fig. 3.



Four of the Principal Four and a Half Tier Packs.—Fig. 4.

on the right is read as a two and three, four and five, and that on the left as two and three, five and five. The pack in the middle is the smallest two and two—two and two, seven and eight, one hundred and twenty, being a size intermediate between those on either side of it. With very flat apples of the same diameter, it is possible to pack a two and two, eight and eight, one hundred and twenty-eight, but this is very rare in the Canadian box. All the apples in figures two and three are rightly styled four-tier, despite the fact that they run both four and five tiers deep. This makes the absurdity of designation by tiers apparent. The general adoption of diagonal packs is hastening the day when on all boxes will be marked the number of apples they contain.

The two and three pack on the right in illustration four is a five and six, and runs one hundred and thirty-eight apples to the box. It is the next step above the one hundred and twenty-five in figure three. The second box from the right is a two and three, six and six, which has thirty apples on the top layer, and therefore one hundred and fifty in the box. The next one to the left is one size smaller, it being a two and three, six and seven, containing one hundred and sixty-three apples, while that on the extreme left is a two and three, seven and seven, running one hundred and seventy-five. These are the principal four and a half tier sizes. The two and three pack, running seven and eight, contains one hundred and eighty-eight, and the two and three, eight and eight, contains two hundred, the two and three, eight and nine, two hundred and thirteen, and the two and three, nine and nine, two

hundred and thirty-five. All packs one hundred and eighty-eight and over are styled five tier. All between one hundred and thirty-eight and one hundred and seventy-five are four tier. All from ninety-six to one hundred and twenty-eight are four tier, and all from fifty-six to eighty-eight are styled three and a half tier, while fifty-four down to thirty-six are three tier.

It will be noted that in the two and two tier packs, there is a uniform increase of eight apples per box, as the sizes decrease. In the two and three packs there is an increase in the number of apples of twelve and thirteen alternately. A study of these packs and the comments on them will make plain the principle of the diagonal pack.

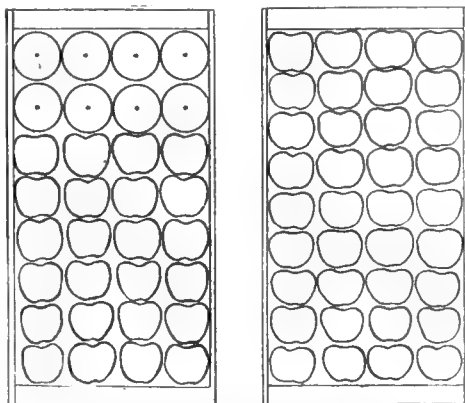
Commercial Box Packing

Robert Thompson, Manager St. Catharines Cold Storage and Forwarding Co.

IN dealing with this subject I shall endeavor to do so from the commercial standpoint. We read and hear a great deal about the fact that in Ontario no great quantity of our fruit is packed in boxes. While this is true, there are reasons to account for it, the main one being that our people in Ontario and Quebec are not prepared to pay the extra cost of packages and packing. Another reason is that they get such large quantities of the best fruit in baskets and

barrels that they do not require the boxes except on rare occasions. The fruit dealers as a rule do not encourage packing and shipping in boxes.

We must remember that western fruit has to be transported long distances, that it must be securely packed in strong packages, and that it is of such a nature as will stand longer delays. Ontario tender fruits, on the contrary, have to be placed in the consumer's hands in the



The "Straight Pack." Figs. 1 and 2
These packs give 128 and 144 apples to the pack



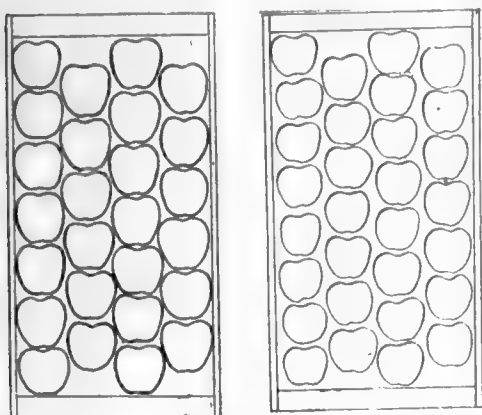
The "Offset" Pack. Figure 3

shortest possible time from the orchard. Of course, in the case of pears and apples this does not hold good.

For packing peaches in boxes the four and a half by eleven by eighteen inches is the standard size of box. The peaches are wrapped and packed in two tiers, the diagonal pack being the only pack that should be used.

APPLE PACKS.

In packing apples there are three well defined styles of pack used, viz., the



The "Diagonal" Pack. Figures 4 and 5
These figures represent 107 and 120 apples to the box.

straight pack, the offset, and the diagonal. The straight pack should not be considered a commercial pack. Every apple is placed directly over another, and there can be no give to the package without more or less bruising. The apples must be almost shaped alike to pack and fill each row and tier. This pack is shown in Figures one and two. The apples can be placed either on their side or on end.

The offset is shown in Figure three. Any sized apple can be packed in one of

the many variations of this pack. Apples carry well and it is a good commercial pack for new beginners. The pack, however, that shows off the best and also carries the fruit in as good shape as any is the diagonal, as shown in Figures four and five. The first layer is placed as in Figure six and the second as in Figure seven. Each apple rests on the three below, and there is considerable give without any bruising. These three styles will allow of variations ranging into the hundreds.

The straight packed box will hold the least number of apples of a given size, and the diagonal the largest number, there being less space wasted. Figures eight and nine will show how the diagonal pack is started.

SECURING THE CROWN.

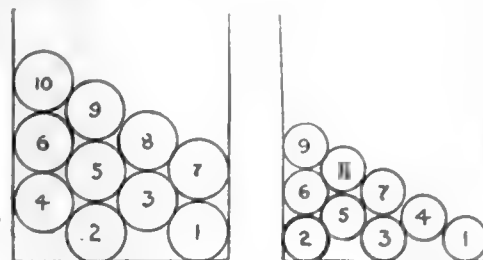
One important feature of a good pack is the crown or bulge in the centre. This is a bugbear for the beginner, as it is difficult to make the end rows come flush with the ends of the box, or slightly above them, and yet have the centre about an inch and a half higher. To secure a proper crown it is often necessary to turn part of the apples in the middle layer, or layers, flatwise, if being packed on cheek, or vice versa; yet skilful selection of the larger apples for the centre will usually make this unnecessary.

In the case of very large apples it is sometimes impossible to bring them low enough at the ends. It then becomes necessary to lay a cleat at each end under the cover. Frequent recourse to this, however, is strong evidence of faulty packing. A crown of an inch and a half gives a bulge at top and bottom, when

the hand is placed upon them and an attempt made to move them back and forth there should be no perceptible slackness. Yet if there is no bulge, an otherwise perfect pack will soon become slack from handling and shrinkage.

TWO ESSENTIALS

Two essentials of a perfect pack are honesty and uniformity—that is, the



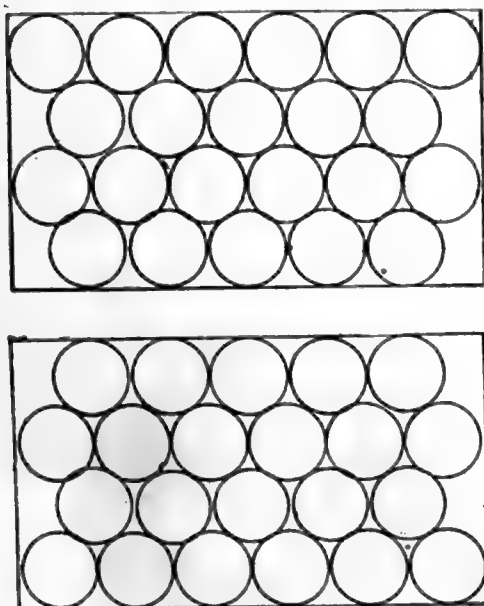
Start of the "Diagonal" Pack. Figs. 8 and 9

The diagram on the left shows the start of a 2-2 diagonal pack, and that on the right a 3-2 pack.

apples in the middle or bottom of a pack should be just as good as those on top, and all perfect.

In packing pears the offset pack is the one usually adopted as shown in Figure ten. The box that should be used for wrapped pears is eight by eleven by twenty inches. The boxes should be made of one piece material and preferably of spruce or basswood, free from knots, using coated nails, as these do not draw out easily.

Pears should always be wrapped, as they carry much better. The time consumed in wrapping and packing the box of pears illustrated, containing about forty pounds net, will vary from eight to fifteen minutes according to the size of the pears and the skill of the packers.



The "Diagonal" Pack. Figs. 6 and 7
The upper diagram (6) represents the first and third layers, and the lower (7) the second and fourth. This pack gives 88 apples to the box.



A Fine "Commercial" Pack of Pears. Fig. 10

the cover is nailed on, of three-quarters of an inch, which experience has shown to be about right.

A greater bulge than three-quarters of an inch means too severe a pressure on the fruit; a less, too great danger of its becoming slack. In a properly packed box the apples in each layer should be so snugly fitted into each place that when

To succeed in obtaining fancy prices, the shipper must cater to special markets and be prepared to give careful attention to sending out good fruit and always well packed. Too many of our growers think that as long as the fruit is placed in a box that it is packed. The fruit in a poorly packed box would sell better in baskets or barrels.

of packing in boxes over barrels or baskets should not exceed in apples unwrapped twenty-five per cent. to forty per cent and in pears or peaches wrapped

over unwrapped in baskets or boxes fifty per cent. to seventy-five per cent.—this estimate includes cost of paper.

Our company has been packing in

boxes for eight seasons, using as many as eleven thousand packages in one season. The demand is increasing and we are getting better returns each year.

New Brunswick's Best Varieties Essentially Box Apples

A. G. Turney, Provincial Horticulturist, Fredericton, N. B.

NOW that the possibilities of apple growing in New Brunswick are being brought more prominently before the public, and a new and increasing interest in our apple lands is being



A. G. Turney

created, it is of interest to note what we expect to be salient features in the coming development of the fruit industry in Canada.

Our hopes of building up a large and profitable trade must be based upon the adoption of the box as the most profitable and suitable method of marketing the varieties in which we excel.

Our three leading varieties, as far as the export trade is concerned, are the Dudley, Fameuse and McIntosh Red. The edible and selling qualities of the last two varieties need no comment. With a proper system of distribution, hundreds of thousands of boxes of these famous and essentially Canadian apples can be profitably grown in this province.

The Dudley is an apple as yet comparatively unknown outside of New Brunswick. In that excellent work, "The Apples of New York," it is described as a seedling of the Oldenburg, originating with J. W. Dudley, Aroostook County, Maine. A few years ago it was introduced by a Rochester nursery under the name of the North Star, and it is commonly known under that name in this province. It was afterwards

found that the name had previously been given to another variety, and therefore the name Dudley Winter was retained for it. This latter name is misleading, as with us, even this far north, its limit of season is the end of December or a little later, and it is at its best from the first of October to the middle of November.

Between two and three thousand trees of Dudley are in bearing in the province and have proved to be quite hardy, vigorous growers and early and heavy bearers of medium to large fruits, practically immune to scab and most attractively striped and splashed with bright carmine and covered with light bloom. The flavor and eating quality is very good, and as an October and early November apple on the English market the Dudley should prove a big success and create a large demand. Hardly any trees of this variety are to be had from the nurseries to-day. As, however, every apple grower in the province is asking for them and enquiries have been received by the Department of Agriculture alone for over 10,000 trees, the nurseries are now making preparations to meet the demand. It is reported that in some sections of Nova Scotia the Dudley is replacing the Gravenstein.

EARLY VARIETIES

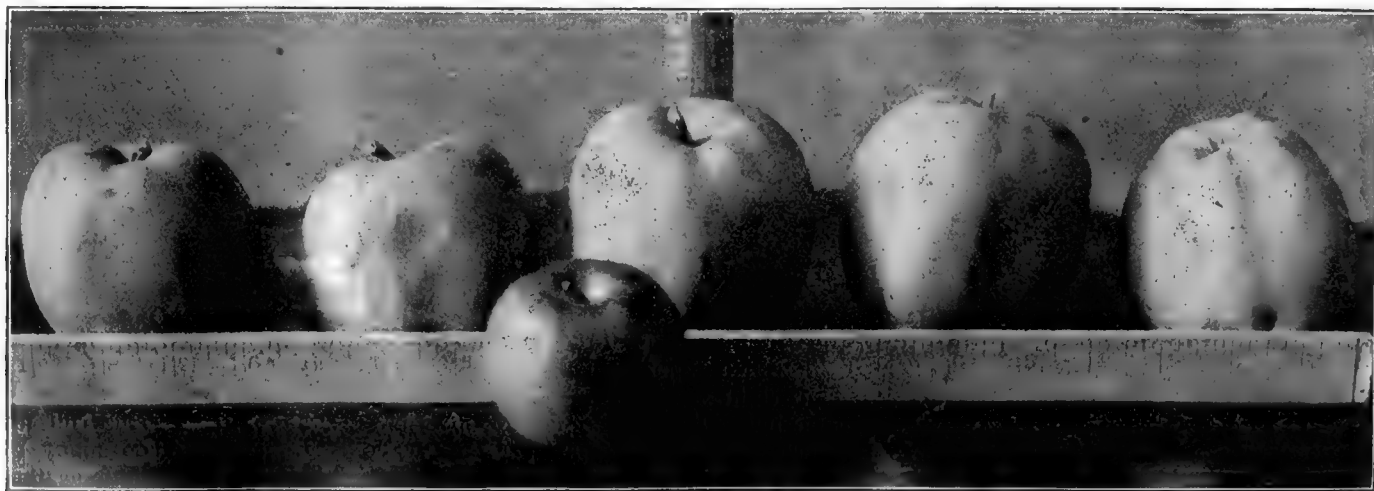
Many people are inclined to ignore the earlier season apples, pointing out that their perishability and poorer selling value do not class them with the winter varieties as money-makers. We must, however, consider that a variety like the Duchess or the Wealthy can be produc-

ed for sixty or seventy per cent. of the cost of some of the winter varieties, and surely this cost of production is as powerful a factor as the selling price in determining which varieties are most profitable.

The experience of the past few years entitles the earlier varieties to more attention. In New Brunswick I believe that their production for the European market will bring us, acre for acre, just as large if not larger profits than the winter varieties are producing elsewhere. Since Red Astrachan and Duchess apples sold last autumn in Winnipeg for two dollars twenty-five cents to two dollars fifty cents a box, which is equivalent to one dollar twenty-five cents or one dollar fifty cents f.o.b. St. Catharines to the grower, and Number Two Duchess sold at five dollars a barrel, we may well consider that with our all-water transportation from orchard to consumer and our pre-cooling facilities in St. John there may yet be many thousands of dollars brought in here in exchange for New Brunswick grown Duchess and Wealthy.

Ribston Pippin grows to perfection in the best apple sections, preferably top worked on some other stock, and may be worth growing extensively for the export box trade. Bethel, a winter apple of very fair quality and exceedingly attractive appearance, is finding favor here and may also prove useful for export. For the local trade, in addition to the varieties already mentioned, are the Bishop Pippin and the Alexander.

It will be seen that our best varieties are essentially box apples. The adoption



Sample of New Brunswick Apples. Notice the Yard Measure.

A Prize-winning Plate of Monster Bishop Pippins, at the Apple Show held in St. John, N. B., November, 1910
Average Size Blue Pearman Apple in Front.



The Orchard of Joseph Gilbertson, Simcoe, Ont., which last year produced some 800 bbls. of 85 to 90 % No. 1 Apples. The Apples are Graded and Packed in the Orchard

of the box as the apple package for New Brunswick will be easier, I expect, than it is proving to be in some other sections. We have never really got into the barrel trade, and consequently will have no prejudices of custom to overcome. Our newer plantings are being made with the full expectation of marketing their products in boxes. By the time these new commercial orchards are in bearing, it is more than probable that the box package will have gained steadily in favor and the tendency to use the barrel be correspondingly lessened.

The packs used most in boxing the apples for the last year's exhibition were the two and two and three and two diagonal face, the straight, and the two and two and three and two diagonal side pack, all but the latter being shown on the cover of this issue of THE CANADIAN HORTICULTURIST. I think that with the proper growing and thinning of the fruit on the trees, followed by careful grading we shall find that most of our apples will lend themselves to some form or other of the diagonal pack.

In conclusion, I would like to quote the opinion of Prof. J. W. Crow, of the Ontario Agricultural College, who, after attending our apple show last year, said in part in the December issue, 1910, of THE CANADIAN HORTICULTURIST: "A most striking feature was the remarkably high color of the fruit. If the fruit exhibited at St. John is a fair sample of what New Brunswick can grow, it is safe to say that Ontario comes in second in the matter of color. Of course it must be borne in mind that the varieties principally grown in New Brunswick are the highly colored fruits, but even in these varieties New Brunswick fruit would compare very favorably with anything produced in Ontario." The exceedingly

high color and natural beauty of appearance of our most successful varieties

greatly enhance their value as box apples.

Harvesting and Marketing the Apple Crop

P. J. Carey, Dominion Fruit Inspector, Toronto

A great awakening has taken place among the fruit growers of Ontario along the line of the better care of orchards. Many now realize, after an experience covering nearly half a century, that the methods of both growing and handling their fruit have been faulty in the extreme. Not until this late day, however, has it dawned upon them that the fruit industry of Ontario is really the business of the growers after all. As a result of the pronounced movement that is taking place in general orchard management, there will be a vast improvement in the quality of the fruit hereafter packed. A few suggestions, therefore, along the line of the proper harvesting and packing of the grown product should be timely. A large proportion of the fruit is in the hands of cooperative associations. Growers are interested, therefore, in picking their own fruit, and hence the necessity of a little schooling along that line.

PICKING FROM THE TREES.

The part of the work most objectionable to the grower is the picking of the fruit. This objection could be overcome to a large extent if the proper facilities for doing the work were at hand, such as good ladders and baskets. In the past this work was done entirely by the outside dealer, and the grower not only did not assist in the work, but in many cases did not even visit the orchard where the packing was being done. This has helped to cause the distaste for the work.

The proper ladder calls for two requirements, strength and lightness. There are many makes on the market, including some good ones. Perhaps the most popular, in sections where apples are largely grown, is the split cedar. The ladders should be painted and kept under cover when not in use.

There are a number of different styles of baskets, but it is generally conceded that the half oval wicker basket, with solid handles, is the best all round basket. The picking bag is used in some sections. It is the most rapid method of gathering the fruit, but it has the fault that it bruises the more tender varieties, unless great care is taken by the operator.

PACKING.

Where central packing houses are not used, and where the packing is done by the growers or travelling gang, much the better way is to pack in boxes or crates. Later, remove these to some building, and there re-pack and finish for shipment. I hope that the time is not far distant when every orchard of any importance will have in or near it a good-sized building (a cheap one will answer the purpose) where the fruit can be taken and properly packed in dry, clean packages. This method has the advantage of allowing the fruit to cool off before it is packed. Besides being a storage for empty packages and picking and for packing utensils, such a building can be utilized for other purposes.

Perhaps the greatest abuse in the art



A British Columbia Packing House, The Farmers' Exchange, Kelowna, B.C.—Notice the Chinese Packers on the Right.

of apple packing is that of over-filling. It has taken us years to discover that perhaps seventy-five per cent. of our apples have been damaged more or less by over-pressing. The exporters having the fear of "slacks" before them, hoped to meet the trouble by heaping up the fruit in the barrels and then crushing it down, until in many cases every specimen in the barrel was either split open or bruised out of shape. This method of packing makes the worst form of slacks.

The west is now taking a large percentage of our Ontario apples, and the dealers are crying out against bruised apples. It will be hard for the export packers to get away from their old habits, but the trade is now demanding it. If the fruit in the barrel is well settled down by thorough shaking and filled level with the top of the barrel, or even a little lower, it will carry safely to any market where our apples are offered for sale.

Over-filling should also be avoided in box packing. A bulge of from one-half to three-quarters of an inch is quite enough for a box of apples. Solid filling in box packing is the first requirement, so that there will be no falling-in of the face apples when the box is opened.

QUALITY OF PACKAGES:

Growers should never endeavor to make a saving by buying poor packages. It does not pay. Fancy fruit never looks fancy in a dirty old barrel or box; a good, well-made, clean package is to the fruit what good harness is to the horse or a good suit of clothes to the man.

Nova Scotia Growers Improve Their Methods

G. H. Vroom, Dominion Fruit Inspector, Middleton, N. S.

A GREAT improvement has taken place during the past twenty years in the fruit industry in the little but noted fruit-growing province of Nova Scotia, down by the eastern sea.



G.H. Vroom.

The annual output of apples has increased from less than fifty thousand to over eight hundred thousand barrels. This increase is attributed by most people to the increased acreage of mature or bearing trees. This is only partially the case. Improved methods of care and cultivation must be taken into consideration. There are orchards in Nova Scotia, producing large crops of choice apples, which were thought worthless, or nearly so, twenty years ago. This has been brought about by careful and proper pruning, thorough spraying, and intelligent cultivation. Thus while many thousands of young trees have been planted and have come into bearing, it is not fair to say that the whole increase in product is due to young trees alone.

Spraying is practised in a great majority of the orchards. There still remain a few who do not believe in spraying, but their number is rapidly growing less. Every year sees new converts to spraying.

Lime and sulphur was the spray most

generally used in the Annapolis Valley this year. It proved fairly satisfactory. Bordeaux has been in general use for some years, and it has given general satisfaction where it has been intelligently and thoroughly applied. Experience has proven that lime and sulphur does not injure the fruit by russetting, and that it is a good fungicide.

FORMER METHODS.

When a car of fruit was to be loaded twenty years ago, the custom of the country was to run it on a siding. The apples were then drawn by teams from the farmers' cellars. The operation took from ten to twenty-four hours, according to circumstances.

To-day we find frost-proof fruit houses all along the railway, numbering in all eighty. These houses are built beside the railway siding. To load a car with apples is a matter of twenty minutes to half an hour. In less time than it formerly took to load a car the apples are now placed at the ship side on the wharf at Halifax. These fruit houses have a capacity varying from six to twelve thousand barrels.

COOPERATIVE METHODS SPREADING.

One of the greatest steps in advance is the organization of cooperative fruit packing associations. Of these there are twenty-two, about half of which own their own fruit houses. Fully one-quarter of the entire output this year will be controlled by these cooperative associations. A central association has been

organized, and all the business will be directed by this association.

PICKING AND PACKING.

In the matter of picking and packing the fruit there has been a marked improvement. The up-to-date careful orchardist will not allow hired help to handle his fruit roughly at any stage of procedure. Ladders long enough to reach to the top of any tree in the orchard and light enough to rest on the outside of the branches are used. Baskets constructed especially for the purpose are used for picking. Some of these are made of canvas and some of splints. In either case the rim at the top is placed on the outside so that the apples will not be bruised when the basket is emptied.

The barrels are filled and the head put in just tight enough to ensure safe delivery at the fruit house without bruising the fruit.

The packing is carried on in the fruit house by a gang of men, and in some cases by women, who are employed to do the grading or sorting. These people are under a foreman, whose duty it is to have a general oversight of all that takes place in the fruit house. This staff of help is divided to suit conditions. One man faces the barrels, another puts the heads in, another nails and brands them.

The modern fruit house has a room especially for packing. The apples are brought in from the main building and packed and put back into the main building again ready for shipment. The advantage in having a separate room is that the help can work comfortably and consequently turn off more work than they could if they were obliged to work in a very cold room.

The fruit is carefully dumped on a packing table and then the grading begins. This table is padded on the bottom and sides to prevent bruising the

apples. These tables vary in capacity from five to ten barrels, and are just high enough to permit a person to stand and work comfortably. They are wide enough to allow the apples to be easily reached by the people who do the sorting. As each basket is emptied the barrel is carefully shaken, and when level full a false head, padded, is put on and the barrel well racked down. This gives room for a layer of apples to be put on or in other words, the barrel is tailed up before the head is put in.

Care is taken in nailing the barrels.

The bilge hoops require small nails, and if these go through the staves they are clinched on the inside. Barrels are nailed before they are filled. Liners are used for the heads, the same as are used for flour barrels, only enough nails are driven in to the hoop to hold it in its place.

MORE BOX PACKING

Box packing is on the increase. A few orchardists are packing their high-class and more tender apples in boxes, and find that it pays, as the increased prices realized more than overbalance the cost and labor of packing in boxes.

Floral Notes for September

Wm. Hunt, O.A.C., Guelph, Ont.

THE first light autumn frosts that usually make their appearance about the first or second week in September, are but the heralds that warn the plant lover to prepare for the heavier and more damaging frosts of later autumn. It is well to make sure of any very tender plants out of doors by placing them in safe temporary quarters before the appearance of even the early light frosts mentioned.

Cuttings of plants such as coleus, ire-sine, ageratum, salvia, lobelia and heliotrope should be taken before the nights get chilly and cold. Cuttings of geraniums can usually be left a week or two later. Even these, however, are better when taken as early in September as possible, so as to get good root development before cold weather sets in.

Sharp, clean pit or lake sand is the best material to root cuttings in. Good drainage is also very essential to be successful. A temperature of from sixty-five to seventy-five degrees with partial shade from hot sun are good conditions for rooting cuttings in. A window facing the east or west is better than a window facing directly south, unless the

cuttings in the last named are shaded from the hot sun at noon day.

Petunias, these popular summer border plants, make splendid pot plants for the window in winter, if managed properly. About the first or second week in September after the plants begin to look shabby in the border, cut the top growth well back, leaving about from four to six inches of the lower part of each shoot near the root. If the weather permits, leave the plants in the border for a week or ten days until the young growth starts, or they can be dug at once. A slight frost does not injure petunias.

Dig up the plants carefully, with a little soil attached to the roots if possible. It is a good plan to water the plants well a short time before digging them. Pot the plants carefully into small three or four inch pots, according to the size of the plant, in rather sandy potting soil. Water them well once and set them in the window. Keep the soil moist but not sodden until they start into growth.

In five or six weeks' time, when the top growth is about six inches in length, repot the plants into a two or three size



An Apple Warehouse adjoining the Railway at Berwick, Nova Scotia. One of about Eighty in that Province.



Petunia in Flower Six Weeks after Potting

larger pot, being careful not to disturb the roots when repotting them. Give them good, rich potting soil for this potting, and nearly an inch of broken flower pot, coal cinders, gravel or lump charcoal in the bottom of the pot for drainage. Shade the plants from the hot sun for a day or two, and then place them in a sunny window, temperature from fifty degrees to sixty-five degrees, away from dry, artificial heat. Spray the plants once or twice a week with clear water on fine days, and keep the soil well moist but not soddened with water.

Petunias do not require a high temperature to grow in, and they strongly object to very dry, over heated atmospheric conditions. Plants treated as described should be in flower before Christmas and continue flowering on until quite late in the spring, or they will make good stock plants to furnish a supply of cuttings during the winter.

PETUNIA PLANTS FROM CUTTINGS

Although petunias are usually grown from seed and treated as annuals, they are perennials and can be grown easily from cuttings. Cuttings of petunias can be taken any time now about the middle of the month, or whenever young soft terminal growth can be obtained. In taking cuttings, the soft young shoots that have few if any bloom buds on should be made use of. It is of no use taking the hard part of the base of the flowering growth for cuttings. If these root at all they take a long time to develop roots, and even then they never make as good thrifty plants as do cuttings of softer growth.

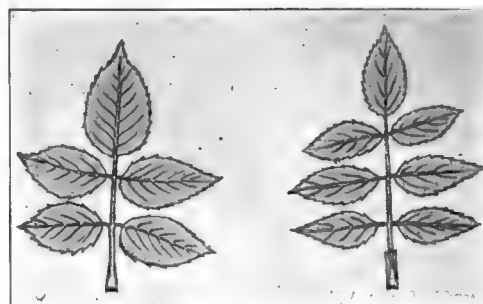
The best kind of cuttings are obtained from the young, soft green shoots that can usually be found down at the

base of the growth near the roots. The single and double flowering types can be grown from cuttings. Place the cuttings in some sharp clean pit or lake sand—or even wash sand from the road side—in pots or shallow well-drained boxes, and place them in the window in partial shade. Keep the sand well moistened. In five or six weeks they should be ready to pot off singly into small two and a half or three inch pots. If repotted into larger pots later as required, they will make fine large flowering plants by early spring, and also furnish a supply of cuttings for rootings in March and April to make plants for flowering out of doors in the summer. The old plants of petunias cannot, as a rule, be kept over successfully for the second summer, so it is best to raise young plants from seed or cuttings each year.

CARE OF ROSE BUSHES

Care should be taken to remove entirely all briar or manetti growth from rose bushes before the leaves drop, as it is very difficult to detect the wild sucker briar or manetti growth from the real rose growth after the leaves have dropped. If this growth is cut away now, it is not so likely to injure the plant as it would if done in early summer when the bushes are just coming into flower.

The method of detecting the briar growth from the real rose growth is to examine the leaves. If the leaves have only five roundish lobes or sections on



ROSE LEAF FIG. 1

BRIAR LEAF FIG. 2

that a few of the Rugosa or Japanese roses as well as many of the moss roses have seven or more lobes to each leaf. On the ordinary hybrid perpetual rose growth, however, there are seldom more than five lobes to each leaf. It is very difficult even for an expert rose grower to detect the difference sometimes, unless a close examination is made as suggested. As most roses are budded or grafted low down on the briar or manetti stock, it is absolutely necessary to go right down to the base of the briar or manetti growth to cut it off. Cutting off the top is only a temporary and partial relief, and results in an increased stock of wild growth the following season. Many people allow this briar growth to grow on until it eventually kills out the rose growth proper, leaving only a wild briar instead of a rose bush.

If rose leaves start to drop from black spot or rust the leaves should be raked or picked up every day and burned. This will help to prevent the recurrence of this disease another season. Spraying the bushes with Bordeaux mixture is a good remedy for black spot or rose rust.

Stop watering roses after the first week in September unless the weather is exceptionally dry and hot. Deep cultivating should be also discontinued. Cultivating only to keep down weeds is all that is necessary at this season. Withholding water and discontinuing cultivation helps to check growth, and hastens the ripening of the wood. Well ripened wood withstands the severity of the winter much better than green sappy growth. Much can be done in the way mentioned to assist the proper ripening of the wood.

If a white mildewy substance appears on the leaves dust them in the early morning or late evening with fine flowers of sulphur, or spray with a weak solution of Bordeaux mixture, diluted with about double the quantity of water usually used for the potato blight. Mildew unless it is unusually bad, does not injure roses much at this season of the year.

Always get the advice of an experienced florist before engaging a carpenter to build a conservatory.

Cut off all flowers from house plants as soon as they begin to fade.



Petunia Plant dug up and Potted

them as shown in figure one, it is true rose growth. If, however, there are seven or more lobes or sections on each leaf (figure two) and the lobes are long and narrow, it is a sure indication that the growth that produces these leaves is either wild briar or manetti.

It must be borne in mind, however,

Indoor Culture of Dutch Bulbs

Rev. Jas. Fletcher, Whitby, Ont.

DUTCH bulbs possess many advantages for indoor culture. They are inexpensive and of less trouble than other house plants, as they can be stored away in the cellar when not in bloom. They stand cold which would destroy other plants. They can be depended upon to bloom when other plants are scarce, and in beauty and fragrance they are not excelled by flowers of any other class.

CULTURE

Their culture is simple, but there are certain principles which must be observed, or failure will be the result. They must have suitable soil if you wish to have bulbs for future use. Some of them as hyacinths and narcissi, when grown in water give good bloom, but the bulbs are of no use afterwards. The soil usually recommended for potting bulbs is a compost consisting of leaf mold, sand, and well rotted cow manure in equal parts. Good garden soil, well enriched, answers the purpose very well, but there must be no fresh manure in it or it will rot the bulbs.

After blossoming is over the bulbs may be put away in some retired place, secure from frost, and sparingly watered until the foliage has died down, after which they had better be planted in the flower garden, and fresh bulbs used in the house for next year's bloom.

For the window, tomato cans in which holes have been made, or boxes, are better than earthenware pots, as they give more root room, and are not so likely to dry out rapidly in our heated rooms.

DRAINAGE

To ensure good drainage, place an inch of broken crockery, pebbles or similar material at the bottom of a five inch pot, cover with moss or other material to keep the earth from clogging the holes, fill up with potting soil, and place the bulbs in the soil, so that the crowns are about level with the top. Eight or ten crocus, four or five tulips, two or three hyacinth or narcissus bulbs may be placed in such a pot. Then water well and let drain before putting away.

The most important part of the treatment is to place the pots in a cool, dark cellar, and keep them there until the roots have completely filled the pots. This will be from six to ten weeks for crocus, tulip and Dutch hyacinths. Roman hyacinths and narcissus do not take quite so long. Do not try to hurry them by bringing them to the light or heat, as they will resent it by giving you poor bloom, or none at all. When roots appear at the bottom of the pot they are ready to be taken up.

If the cellar is moist, they will not need

watering again until taken up; if dry, water sparingly. If the cellar is damp, it is not suitable, as they are likely to rot. The coolest place you can find is the best place for them. They will stand light frost without serious injury.

Wherever kept they must be gradually accustomed to the light, placing them for several days in partial shade, and not bringing them to the sunlight until the foliage is strong enough to endure it. Most living rooms in the winter are too warm for the successful growth of bulbs; our sleeping rooms suit them better. The cooler they are kept the finer will be the bloom and the longer it will last. Late planted bulbs do not require so long a time in the cellar, as roots are formed more rapidly. By careful management a continual succession of bloom may be secured from Christmas until Easter.

A Wild Flower Garden

R. S. Hood, Galt, Ont.

I enclose you a snapshot of my wild flower garden. It is situated on the north side of the kitchen. The house projects eight feet past the kitchen, which makes a very suitable place for it as it gives a north eastern exposure. The bed is eight feet wide by sixteen feet long. It is filled with plants brought from the woods and swamp, and planted by myself. It has taken some years to get the collection together. It is and has been a source of pleasure to others and to myself, and not by any means the least of the pleasure is the fact that it makes a nice corner at our home.



Mr. Hood's Wild Flower Garden

All the plants are strong and healthy, and have large foliage. They have taken very kindly to their new home. Occasionally during the summer I give them a treat in the shape of a little stimulant, to which they respond very generously.

There are over two hundred trilliums. Their blooms were exceptionally large last spring. Included also are five varieties of ferns (one fine specimen of the maiden-hair variety), three varieties of lady slippers, thirty-five of the large yellow slippers, twelve of the small yellow variety, and twenty one of the tall or showy slipper. The top of the rack or slip of several was a beautiful shade of pink, others white. One of the showy variety had three flowers on one stem, six had two, and the rest one each.

There are thirty-eight lilies, ranging in height from two feet to six feet. One has twelve dear little graceful blooms on it. Others have from one to ten. I have also several plants of Jack-in-the-pulpit, blood root, violets, hepatica, false Solomon seal and May apple. Every one to his or her own taste, but the little wild flower garden is my favorite.

When spraying, do it thoroughly.



Horticultural Possibilities of the Far North. A Yukon Garden Photographed in August

An Unappreciated Flower

By Mrs. Annie L. Jack, Chateaugay Basin, Que.

A good many years ago the editor of *The Rural New Yorker* gave me seed of *Pyrethrum* that he valued very much as a perennial. In spite of ill usage and overgrowth of shrubs near by, so tenacious are they that plants from this seed continue to blossom, and give their flowers in June in profusion. But the newer varieties, and careful treatment, have been a revelation to me, for they are perfectly hardy and invaluable for cut flowers, while greatly improved in texture and shades. Nearly every year sees some new development, the result of skilful raising, and they have the advantage of growing well in shaded places, if the soil is kept fertile.

The *pyrethrum* grows in any good garden soil, though a rich loam is preferred in order to secure size and brilliance of bloom. The flowers are bright and showy, and being borne on long stems are very suitable for vase decoration, while the foliage is finely cut and deep green. The beautiful double varieties that have been developed of late years remind one of a *chrysanthemum*, and they are at their best blooming during the months of May and June. As they require no winter protection, and if cut down in June, and kept watered, will make new growth and blossom again in autumn, they are sometimes called the "poor man's *chrysanthemum*."

Surface rooting plants, and liable to be injured by hot sun, they are materially aided by a mulch of anything that tends to conserve moisture. In early spring the plants may be propagated by dividing into small pieces and planting out in prepared soil, or if grown from seed will give plants that will flower the following year, but from this method the quality and color cannot be depended upon.

Among named double varieties for the amateur who cares only for a small collection of the best we have "*Aphrodite*," pure white; "*Lord Rosebery*," carmine scarlet, a most dazzling color; "*Magician*," bright pink—yellow tipped; "*Regulus*," purple carmine, and "*Solfaterre*," a creamy yellow.

Of single sorts, sometimes called "colored *Marguerites*," there is "*Lord Milner*," a cherry rose color; "*Langport*," scarlet; "*Decoration*," a flesh pink; "*Devonshire Cream*," as its name would indicate, is a rich cream color; while "*Princess Marie*," "*Gwendoline*," and many others are pure white. In fact among a hundred varieties now advertised, it is difficult to select the best half dozen for a limited border, but good seed will increase the variety of coloring and give some choice sorts.

The flowers of the *pyrethrum* will stand storm and shade better than many other perennials, as the stems are stiff

and yet wiry, but as a safeguard a mulch in summer and a covering of coarse manure after hard frost in late autumn, will ensure against sudden changes of temperature so detrimental to our perennials in this climate.

If planted in a border among other tall growing herbaceous plants, the *pyrethrum* does well near the front, placed at even distances, and in this way, when the flowering season is over, it can be trimmed off, and even if not giving a second supply of bloom there is a neat elegance in the finely cut foliage.

Tulips From Seed

Can tulips be grown from seed to advantage, and if so, when is the best time to use the seeds? I have some fine seed pods saved from my best purple, tall growing stalk. I had some nearly three feet high, far above all other sorts. Would a new kind be apt to spring from the seed?—H. L.

Tulips can be grown from seed, but not to advantage, as our climate here is not suitable for the propagation of the tulip, either from seeds or offsets. Tulips grown from seed usually give some variation in color or habit from the original type. It is not wise to allow tulips to seed. The seed head should be cut off as soon as the blooms have dropped. Allowing them to produce seed weakens the bulb.—Wm. Hunt.

Fall Care of Evergreen Plants

Wm. Hunt, O.A.C., Guelph, Ont.

About the middle or end of September, according to weather conditions, evergreen plants, such as Japanese *Euonymus*, *Oleander*, *Aucuba Japonica*, *Myrtle* and *Bay trees*, may be stood under the shelter of a verandah or under trees, or in an open shed. The early white frosts do not injure these plants, as they are almost hardy in their nature. By giving them the shelter mentioned, it is quite possible to keep them out of their winter quarters until quite late in the fall, thus giving the growth a chance to harden—a very necessary matter in the successful wintering over of these plants. Do not hurry them into their winter quarters too early, and do not go to the other extreme and expose them to more than five or six degrees of frost without some slight protection.

These plants are very largely used in Holland, Belgium, Germany, and other countries, for temporary outdoor decorative purposes in summer. Deep pits, or greenhouse pits, are sometimes built expressly to keep these plants in during winter, and are usually built without facilities for artificial heating, as only a few inches of the structure, beyond the covering of glass and boards, is exposed above the ground level. This part of the structure is covered with thick mats in severe weather. A structure of this kind

with provision for temporary heating to suit our more rigorous climate could easily be made where a collection of these plants are grown, as they occupy a lot of useful space in an ordinary greenhouse.

It is not generally known that the growth of the *Oleander* is of a very poisonous nature. Great care should be taken to prevent any person from eating the leaves or growth of the plant. This objectionable feature detracts from the value of this popular decorative plant.

Trouble With Hydrangea

Last spring I had a present of a very fine house *hydrangea* which was covered with bloom. In two or three weeks it began to wilt and all the bloom dropped off. Was it for the want of more water, or more fresh air? We kept it in the parlor after the bloom fell off, and then I planted it out in the garden. The plant seems quite healthy now. I have repotted it. Please say how to keep it through the winter so that it will bloom in the spring.—W. E., Toronto, Ont.

The house or pot *hydrangea* is of a half-hardy nature, and should be kept partially dormant during the winter. The plant mentioned should be kept out of doors during nice weather until there may be possibly five or six degrees of frost. It should then be taken into the cellar or into a cool room in the house, temperature 40 to 45 degrees, and kept there during the winter. If the cellar is dry, it may require two or three slight waterings during the winter. The soil should never get dust dry. The top growth should be sprayed or sprinkled with water about every two weeks to keep it fresh. I have known some people to wrap the top of the plants slightly with burlap and sprinkle the burlap occasionally. This sprinkling is to keep the growth from shrivelling or drying up. I am inclined to think that the cause of the plant you mention dropping its flowers and foliage was due to gas fumes or to the dry atmosphere of the house.—Wm. Hunt, O. A. C., Guelph, Ont.

Hollyhock Leaves

Can you tell me what to use to prevent the leaves of hollyhocks drying and falling off?—W. B., Windsor, Ont.

The plants mentioned are probably attacked with what is known as the *Hollyhock Disease*. The disease is of a fungus nature (*Puccinia malvacearum*). The best remedy or preventive is to spray the plants early in the season with Bordeaux mixture the same as used on potatoes. As a preventive all diseased leaves should be picked off and burned, also the stems of the old plants in the fall. It is best to plant in a fresh place in the garden, if possible.—Wm. Hunt.

Annual flowers are easily grown.



The Vegetable Garden of Mr. Justice where Two Crops of Celery are Grown

Harvesting Vegetables*

A. G. Wooly Dod, Calgary, Alta.

ABOUT the beginning of September the tops of onions should be broken down with the foot. This will assist the bulbs to ripen. In about three weeks pull them and place them in double rows, stalks outward, and leave them to dry. If the ground is dry they will not require turning, but if the ground is wet, or there is any rain, it may be necessary to turn them. On frosty nights a few sacks should be thrown over them to protect them from frost. These should be removed in the daytime.

SORTING

As soon as the tops are dry sort out all those with thin necks and tie them in bunches and hang them up in a cool, dry place. If care is taken to hang up only those with thin necks, they will keep in good condition all winter.

It will be found that there will be a good many bulbs with big necks. These should be cut off, and the onions laid on a rack in heaps to dry a little longer, and then stored on a dry floor, not too thickly, or they will heat. These big-necked ones will not keep very long, and should be used as soon as possible. If stored in a cool, dry place, however, they will keep for some time.

PULLING CARROTS.

Carrots can usually be pulled, but if they are very firm in the ground, it may be necessary to loosen them up first with a fork. Take as big a bunch as you can hold in your hand and cut off the leaves with a sharp knife close to the crown; if you happen to cut the carrot in doing this it will not do any harm, as it will keep just as well. The roots may now be piled in a cool, dry place, where, if

they are not too warm, they will keep well into next summer. If kept in a too hot or light a place they will sprout and spoil. A little frost will not hurt them, as they are better kept too cold than too warm.

Beets require handling with more care. Cut off all the leaves, but do not trim the roots. Be careful not to cut into the crown, or they will bleed and become soft. Store them in a cool, dry place, but they must not be allowed to freeze.

Parsnips are about the hardest vegetable to pull, as their roots go very deep. I find a good plan is to dig a trench with a spade as close to the crown as possible, and then bend them over towards the trench. When pulling, wring with both hands. Pull a good many at once, and lay each one on the ground till you have enough to collect in bunches. Then take a bunch in one hand and cut the leaves off in the same way as with the carrots. The roots should be piled, and covered with sand, or they will soon become limp and useless. If preferred, they may be left in the ground all winter, as no amount of frost will hurt them, and they will be found in much better condition in the spring than those that have been stored.

I would not attempt to store ordinary turnips, as they never keep well, but Swedes can be kept a long time in a cool place. These should have all the small roots trimmed off with a sharp knife, and the leaves removed. Close trimming the roots will not damage them in the least, as they will not bleed like beets do.

CELERY.

Celery is better not trimmed at all. It should be stacked, heads and tails, and

each row covered with sand, which will keep it from wilting. These vegetables should be stored before any danger of severe frost, with the exception of the parsnips, which, as stated, may be left out all winter. If your corn and marrows are all picked before they freeze, they will keep several weeks in a cool place.

Growing Two Crops of Celery

Mr. J. Justice, Barrie

The process is very simple, and also very profitable. The soil is well manured with thoroughly rotted stable manure in the fall, dug deeply and left rough. In the spring it is well pulverized with a digging fork and nicely smoothed. This is done just as soon as possible in the spring and drills of spinach sown four feet apart. I make the drills with an eight inch hoe drawing it flat so as to get as wide a drill as possible. The seed is scattered in this and raked in. This crop is immense.

Between the spinach rows I sow a little fertilizer and work it in with a narrow scuffler, going over the ground twice before setting out the celery, which is planted on the level, about the middle of May, or later, oftener later than otherwise. This crop is blanched by hilling up, and is ready for market about the middle of July. The trenches formed by hilling the early celery are fertilized, prepared and planted with late celery. I had some loss this year by the celery running to seed, but it does not often happen. I would be very grateful if some one would tell me how to prevent this.

As soon as the spinach is cut the roots and remnants are dug in and rotted before the earth is needed for hilling.

Insects Not Injurious

I am sending you a bug that has been very numerous this summer. The Guelph insect experts call it Lady-bird Beetle and say that it is a very harmless bug, feeding on aphids. I find it extremely destructive, feeding on plant life, sweet pease and even grass, and would like to know what to do to prevent their destructive inroads. They may feed on aphids, which is invisible, but there are plenty which they do not destroy. They even go way out to the ends of the tendrils.—G. M. C., St. Thomas, Ont.

The insects in the envelope from your subscriber at St. Thomas are specimens of two common Ladybird Beetles of the genus *Coccinella*, namely, *C. 9-notata* and *C. trifasciata*. These insects, of course, were not in any way destructive to the plants. They are extremely beneficial. It is probable that plant lice were present and were the cause of the injury. Sweet peas this year have been attacked in certain districts by the destructive pea aphid, and where this insect has been present, Ladybird Beetles have been numerous and have done excellent service in reducing the numbers of the aphids. — A. Gibson, Assistant Entomologist, C. E. F., Ottawa.

*Extract from a paper read before the Calgary Horticultural Society.

The Canadian Horticulturist

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The Only Horticultural Magazine in the Dominion

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H. BRONSON COWAN, Managing Director

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7. Articles and Illustrations for publication will be thankfully received by the editor.

CIRCULATION STATEMENT

The following is a sworn statement of the net paid circulation of The Canadian Horticulturist for the year ending with December, 1910. The figures given are exclusive of samples and spoiled copies. Most months, including the sample copies, from 11,000 to 12,000 copies of The Canadian Horticulturist are mailed to people known to be interested in the growing of fruits, flowers or vegetables.

January, 1910	8,925
February, 1910	8,967
March, 1910	9,178
April, 1910	9,410
May, 1910	9,505
June, 1910	9,723
July, 1910	9,300
August, 1910	8,832
September, 1910	8,776
October, 1910	8,784
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Communications should be addressed.

THE CANADIAN HORTICULTURIST,

PETERBORO, ONTARIO.

EDITORIAL

OUR NEW NATIONAL NOTE

There has never been a time when we could have issued just such a special packing number of The Canadian Horticulturist as this. A basic change has taken place in the condition of our fruit industry within the past one to two years. Its influence may be noticed in the fruit districts from the Atlantic to the Pacific.

Within that period, as Mr. Vroom's article shows, cooperation has taken a great leap forward in Nova Scotia. Its beneficial effects are being felt. Better methods of packing are being introduced, new apple warehouses are going up, box packing is increasing, salesmen representing the co-operation movement have been sent to the western provinces for the first time, and more rapid progress is expected during the next two or three years than has ever before been known.

New Brunswick is just discovering herself. Within the past year she has held her first provincial horticultural exhibition, at which her growers amazed themselves by the display of exceptionally fine fruit they made. They now have a vision of the great fruit growing possibilities of their province and are setting to work in a systematic, careful yet enthusiastic effort to develop them properly.

Quebec is progressing more slowly, but none the less surely. The new, well planned nurseries that have been established within a few miles west and south of Montreal are an outcome of the rapidly increasing demand for hardy trees suitable for the climate of Quebec province. The growers are beginning to concentrate their efforts on the growing of two or three of their best varieties of apples. For these the use of the box is becoming increasingly popular. The provincial government and Macdonald College are conducting educational work on a more comprehensive scale than ever before attempted, and their efforts are being appreciated.

In Ontario there has been almost a transformation. Work conducted in demonstration orchards within the past year revealed the fact that there were many thousands of neglected orchards that might be made extremely profitable. Farmers have taken hold with a will. Hundreds of orchards have been renovated, a million-dollar company has leased and bought outright several thousand acres of the best orchard lands, the membership of the provincial fruit growers association has increased by fifty per cent. within the past nine months—it numbering now over one thousand three hundred—and many hundreds of thousands of apple trees have been planted in new orchards. The victory of the fruit growers over the railway and express companies, which has forced the latter to reduce their rates and to grant numerous other much needed improvements in their service, has helped to encourage more extensive shipments of tender fruit to the west and thus to increase production. Trial shipments have demonstrated the possibility of developing a trade in peaches with the Old Country. New tender fruit districts, more particularly adjoining the southern part of Lake Huron, have been further developed and tested. Cooperative methods have been greatly extended. The future is pregnant with promise of better and greater things to come.

British Columbia fruit growers have

never lacked optimism or aggressiveness. These excellent qualities have justified themselves within the twelvemonth by the holding of a national apple show that surpassed even the great apple shows that had been held during the previous few years across the provincial border to the south. The fact that the chief award was captured by British Columbia fruit in open competition with the best that the fruit world of America at least could produce has given a stimulus to fruit growing in that province that nothing else could.

And thus the whole country has been affected. As a result of their increased production the fruit growers of the different provinces have been brought into an open competition with each other, particularly in the markets of the west, never before known. This has forced them to discard antiquated methods in favor of the best used by their competitors. The resultant evolution is still in progress.

Now national issues are forcing themselves to the front. An investigation of the extent and possibilities of the fruit industry is being made by the Dominion Government and arrangements for another Dominion fruit conference are being made.

These evidences of progress, with their promise for the future, have led us to endeavor to do our part by publishing this our first Special Packing Number. We hope that our readers will like it. We thank those who have assisted us, both our contributors and our advertisers, and we trust that the year to come will show even greater progress and that a year from now The Canadian Horticulturist will be privileged to celebrate it by the publication of another and still better special packing edition.

A NEEDED IMPROVEMENT

Times change. It is only a few years since the announcement by the Dominion government that it proposed to establish a fruit marks act, and to prosecute those found guilty of fraud in the packing of fruit created bitter opposition. So vigorous were the protests made, the government did not dare to extend the principle beyond fruit packed for export, its main defense of its action being based on the claim that the standing of Canadian fruit on the British markets needed to be protected. This argument did not apply to fruit packed for consumption within Canada, and therefore nothing was done to protect the home consumers from frauds that were declared to be a crime when perpetrated on the buyers abroad.

And now, within the past few months, the government has amended the Inspection and Sales Act, which includes the Fruit Marks Act, so as to cover all fruit packed and offered for sale, either wholesale or retail, in Canada as well as for export, and we have yet to hear the first serious murmur of protest. This, of itself, furnishes excellent proof of the success that has attended the enforcement of the Fruit Marks Act.

This amendment has long been needed. Fruit that unscrupulous packers feared might not get past the fruit inspectors, if shipped for export, has been unloaded on the home markets, including the west, with the result that the cries of protest by the Canadian consumer have been steadily increasing in volume. The happy days of the dishonest packer in Canada are drawing to a close. The end cannot come too soon. It is unlawful now to mark or cause to be marked a wrong name, or the name of any person or firm, other than the one who actually packed the package. Thus are the opportunities of escape from detection being closed.

PRE-COOLING FRUIT

Commissioner Ruddick's contribution in this issue, on the pre-cooling of fruit, calls attention to an improvement in our methods of handling fruit that the future still has in store. Its day is fast coming. There are sections already in British Columbia where the growers, being forced to ship their fruit long distances, already recognize the need for some such system.

Already growers in the Niagara district have been gathering information with the view of installing a pre-cooling plant. The time for such action may not yet be ripe, but the necessity will become so great ere long that further delay will not longer be advisable.

Our request in our last issue for information concerning the late Charles Arnold, who originated the Ontario apple, has borne fruit. We now have the address of a son and daughter of Mr. Arnold, both of whom are familiar with his work and one of whom has kindly consented to furnish an article concerning the same for an early issue of The Canadian Horticulturist.

A reader of The Canadian Horticulturist who resides in the Niagara District, and who has had some experience with irrigation problems, has written us heartily commending our suggestion that the Ontario government should investigate the possibilities of irrigating portions of the Niagara fruit belt from the Welland canal. More on this subject will be published later.

As far as the holding of a national apple show is concerned Ontario apple growers seem to have forgotten the motto, "Nothing venture, nothing win," or have they got it twisted into nothing venture nothing lose?

PUBLISHER'S DESK

This Issue

While not the largest in number of pages, we believe that this issue of The Canadian Horticulturist is the strongest from an editorial and news standpoint, and in its educational character, that we have ever issued. We venture to say that numerous bulletins have been issued under governmental auspices, both in the United States and Canada, dealing with the packing of fruit, that do not contain the same amount of helpful, valuable, timely information as does this issue of The Canadian Horticulturist, nor are they as profusely illustrated.

Nevertheless we are sorry that this number is not still better. Some of our best articles, unfortunately, have been crowded out. These include one on "Cooperation in Ontario," by P. W. Hodgetts, provincial director of horticulture, which we purpose running as the introductory article in our next issue. Another strong article, "Educational Work in Fruit Packing," by R. M. Winslow of British Columbia, has also had to be held over although it was Mr. Winslow's main article. The information on fruit packing, given elsewhere in this issue, having been sent by him merely to illustrate the photographs. However, these and some other good ones will be published later when they will probably be all the more interesting for having been kept over.

Should any of our readers who love flowers best feel that their departments have been somewhat overshadowed in this issue we trust that they will forgive us this time.

We are planning to more than make it up to them. Next year we purpose publishing a series of twelve articles in The Canadian Horticulturist, one in each issue, describing some of the best amateur gardens we know of in Canada. These gardens are now being selected with a view to the interest of their special features. This much we can say. Some of them are located in Ottawa, Toronto and Hamilton. We expect to choose the others in smaller places. If you know of any gardens that you would like to see described we invite you to write to us. Each article will be profusely illustrated. Already three well known authorities on gardening subjects have kindly consented to assist us in the preparation of these articles. They will be the most interesting series of articles that have ever appeared in The Canadian Horticulturist.

Do you ever stop to think of the splendid value we give you when we furnish The Canadian Horticulturist once a month for only sixty cents a year? As far as we know there is no other horticultural publication on this continent or in Great Britain of the same class as The Canadian Horticulturist that charges less than one dollar a year. Don't you think that we deserve your assistance, and won't you help us by showing this issue of The Canadian Horticulturist to some of your friends who are interested in horticultural subjects and obtaining their subscriptions? For your trouble we will send you a fountain pen or some other nice premium. One gentleman, a lawyer in Toronto with only a small garden, recently paid for five subscriptions to The Canadian Horticulturist, they to be sent to five of his friends.

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J. D. McGREGOR, MANAGER

Notes on Britain's Apple Markets

Grant S. Péart, Burlington, Ont.

Autumn coming in the near future, it is again time for apple growers and dealers to study the markets. It is probable that some of Canada's apples will be sold on British markets this season as of yore. A little discussion on these markets may then not be out of place.

The following are a few conclusions taken from an accumulation of opinions that have resulted through experience of British and Canadian apple men on Britain's apple markets. These I had the good fortune to collect during the past winter. Readers must remember, however, that the best of information on the subject of markets is misleading sometimes. The object of this article is to give a line of ideas (which may or may not be facts) but which will probably be of interest to Canadian shippers.

The British consumer distinctly demands three classes of apples, the dessert type for a limited fancy trade; No. 1, cooking and dessert apples for the general trade and large quantities of inferior stock, No. 2's, for culinary purposes alone. With reference to varieties of a strictly dessert type, say McIntosh and Fameuse, only the "Fancy" and "No. 1" grades should be exported. The inferior surplus can be marketed at home to better advantage. The same remarks may be said to apply to No. 3 stock of all other varieties. When placed on these markets they tend to depreciate the values of higher grades of fruit and to hurt rather than build up our apple reputation. The demand for our standard varieties is practically unlimited, and many other kinds are accepted, sometimes at good prices, but only when required for a

special trade or at a time when there is a shortage in standards.

Six apple shippers, representing different parts of Ontario, when asked to name the best paying varieties of apples, taking one year with another from the exporter's point of view, gave the following list. The varieties given are placed approximately in the order of their selling value:

Four exporters named the King, three the Snow, one the McIntosh, five the Spy, one the Ribston, all the Baldwin, four the G. Russet, all the R. I. Greening, three the Stark and one the Ben Davis.

Only apples of a fancy and No. 1 grade should be packed in boxes. Relative net prices received by shippers, for No. 2's, per box and barrel, are about the same. While as a general rule better sales are accounted for high grade fruit in boxes when free from competition with inferior grades in boxes.

The dessert trade demands apples of medium size. Such fruit is retailed by the number, so much a dozen, or by weight, so many to the pound. Thus the handling of very large apples reduces the retail merchant's profit and renders him a less ready customer. With the staple sorts apples medium to large in size are desired.

It is extremely difficult to determine the individual markets to which various sorts of apples should be shipped to secure the best returns. The markets change from day to day according to supply and demand, so that a variety that goes legging in Glasgow might be somewhat eagerly sought after in London, while a week later the positions may be reversed. In a general

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way the markets of the Midlands, the North of England and Scotland handle Ontario apples to better advantage than the South of England and Ireland. The latter are the apple growing districts which keep the London market and those of Ireland comparatively well supplied. However, these apples are largely of cooking sorts, so that even in these markets little competition can be feared with dessert varieties.

Then again the Midlands, typified by Birmingham, are very strong purchasers of Russet apples of all sorts, including the Ribston, Roxbury and Golden Russets. The north of England and Scotland also seem to want red apples, which means that the Spy, Baldwin, King and Ben Davis are preferred by the Northern consumers. For large quantities of box apples Glasgow appears to be one of the best markets, while Liverpool is equally as good for large shipments of barrels. Both these places are heavy distributing centres, buyers from other towns and cities purchasing their supplies in them. Bristol is developing into a good market, but nothing should be sent there before November first, since it is in the heart of an apple growing district. Hull has an export trade with the continent of Europe, and for this requires Baldwin, King, Ben Davis and Golden Russet in boxes. The important factor in their trade is that the fruit must be capable of long shipments.

I want to express my appreciation of "The Canadian Horticulturist." I have been reading it for three years and find it very helpful.—Miss A. Moyle, Richmond Hill, Ont.

Renew your Subscription now.

Room for Improvement

E. M. Straight, Macdonald College, Que.

Some days ago we visited the fruit auction rooms in Montreal. The display of California fruit was large and very fine. The thing which struck us as being the most remarkable was the way in which it was packed. We have a long way yet to go, in Quebec, before we may successfully compete with the California packer. Care in placing, care in grading, care in the arrangement of color characterized every package. The package goes farther than we think—much farther. We could point you out stuff that day that the farmer, used to first-class fruit and vegetables fresh from the fields, would not eat; yet, largely because of its package, it sold.

Not only beauty of package must be considered, but strength is equally important. In every case the Western fruit man did not give sufficient attention to this, although he usually did. In car lots the weight on the bottom layer is very great. Any breakage in these packages or others means much loss to the grower.

A gentleman from Canada, travelling in Egypt, writes to the Department of Trade and Commerce to say that apples in Egypt cost two shillings each. He recently had eaten some which were of a very fine variety. He states that there is a splendid opportunity for Canadian apples in the Levant, and adds: "These wealthy princes and people of Egypt who own half the Bosphorus pay any price when they want anything. My friend seemed not the least concerned that apples should cost him 50 cents a-piece." If an attempt were made to ship apples to Egypt, the correspondent of the department believes that a harvest would be reaped.

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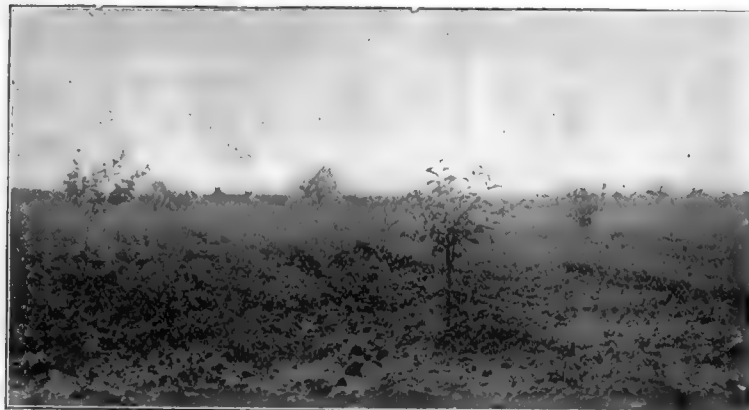
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Packing Apples in Barrels

The management of the Norfolk Fruit Growers' Association (Ont.) has sent a circular letter to its members giving the following suggestions in regard to the packing of fruit:

Get your ladders, picking baskets, packing table, stemmer, press, leveller and plank on hand, also engage your pickers and packers so that when your apples are ready to pack you are in a position to do so.

Picking should be done with care. Handle the apples so that they will not be bruised. Never pick apples off the ground and put in the barrels with Handpicked No. 1 or No. 2 apples.

Drive all quarter hoops down firmly and nail with three nails in each upper quarter hoop. Then drive hoops well down on the end of the barrel with poorest head and nail four nails. Then head line by using four nails in each headliner. Exercise care in headlining and drive nails slanting. If nails show through to outside of barrel don't clinch but take out and drive right so it does not show through. Now, take out the other end of the barrel and clinch the quarter hoop nails. Use one and a quarter-inch wire nails. Next stencil your barrel.

PACKING

Get everything ready for packing.

If using paper, place this in the end of the barrel. With great care pick out and stem your facers, not the largest but average size of grade you are packing. See that every apple is a perfect one with the very best color you have to choose from. You should not have any difference in size in your facers, but if you should have, place your smaller apples to the outside row and the larger ones to the centre. A good many inexperienced packers do the opposite. Always place stems down, with the exception of long, shapely varieties, as Gilliflower and Bellflower, which lay red cheeks down. The sorting must be done carefully and reject all wormy, fungus spot, bruised and unshapely apples both for No. 1's and No. 2's. Now, place your barrel on a plank and after each basket of apples emptied give the barrel several quick, short shakes. You will have to be governed according to the size of the apples you are packing now full to fill the barrel before using the leveller. At all times level so it will take one row, blossom end up, on top and leave your apples about one-half inch above staves. Care must be exercised in racking down very carefully. Nail and headline your barrel and same is ready for shipment.

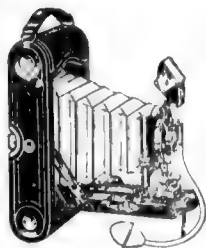
Size for Snows, Golden Russet and kindred sized varieties, 2 1-4 inches and over, of good color, for No. 1's, and 2 1-8 inches and over showing some color for No. 2's.

Size for Baldwins and kindred sized varieties, 2 1-2 inches and over, of good color, for No. 1's, and 2 1-4 inches and over showing some color, for No. 2's.

Size for Spies, Greenings, Kings and kindred sized varieties, 2 5-8 inches and over, of good color, for No. 1's, and 2 3-8 inches and over, showing some color, for No. 2's.

Don't pack any No. 2's in Talman Sweeties or early fall apples, such as Jenneting, Colverts, St. Lawrence, Maiden Blush, etc. Pack very few No. 2's in odd winter varieties. Let No. 2's chiefly consist of Kings, Snows, Greenings, Spies, Baldwins and Russets.

The number on every barrel is the grower's name, and each grower will be paid for his fruit according to varieties and quality, and it is the duty of each grower to see that his apples are packed according



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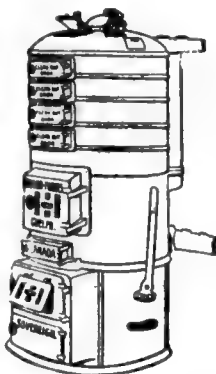
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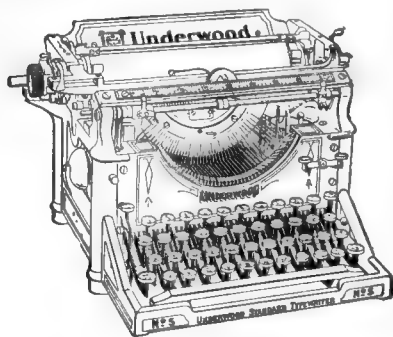
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CHAPTER 3

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PROVINCIAL NOTES

British Columbia Notes

Superintendent R. W. Allen of the Oregon Agricultural College Experiment Station at Umatilla addressed British Columbia fruit growers in a three weeks' series of lectures held during July. He began at Kamloops and travelled south through the Okanagan district, giving field demonstrations in the afternoons and stereopticon lectures in the evenings on orchard irrigation.

Mr. Herbert Garaway, the manager of the Okanagan Fruit Union, one of the largest fruit-handling companies in British Columbia, has expressed the opinion that within the next few years the Okanagan will be transformed into a great apple-growing country with peaches and other tender-skinned fruit almost entirely eliminated. In the north end of the valley no peaches or apricots have been produced at all, but in the district south of Kelowna, which has only recently been given up to fruit ranching, peach orchards have been laid out in a very generous style. Peaches have, however, proved to be a most dependable crop, while on the other hand apples are a certainty, can be grown at less cost and are much easier to handle and ship. This year the peach crop will be small. Practically every order that has gone into the big nurseries this year has been for apple trees. The entire irrigated zone in the dry belt bids fair to be covered with apple orchards.

The provincial nursery inspectors this year have condemned seventy thousand six hundred and sixteen trees shipped into the province by outside nurseries. The majority of the importations were from the United States, but there was also a good number from continental Europe and from other parts of the world.

The provincial fruit inspector, Thomas Cunningham, reports that in certain eastern sections of the province insect pests have been much more in evidence than in recent years, as well as black knot on plum and cherry trees.

In spite of the fact that the output of the home nurseries in British Columbia is increasing by leaps and bounds, the importations from other states and provinces never were so large as at present. The increase in importations—1911 over 1910—was more than 40 per cent. The total number of trees and plants imported up to April 30th for the present year was over 3,000,000.

The directors of the British Columbia Fruit Growers' Association have made a number of important recommendations to the provincial government. They urge the government to take immediate steps to have reliable reports made on new and untried districts which are now being exploited as fruit districts, in order that new, ignorant settlers may not be led into worthless investments by ignorant or unscrupulous agents or land companies; that a plant pathologist and entomologist be engaged and given facilities for conducting labora-

torical work on the broadest lines; that the services be engaged of Prof. B. E. Etcheverry, head of the irrigation department of the University of California, to investigate and report, with recommendations, on the distribution and use of water in the irrigated districts of British Columbia, and that an assistant be engaged for Mr. R. M. Winslow to assist in the general secretarial work of the horticultural branch of the Department of Agriculture.

Western Annapolis Valley, N.S.

R. J. Messenger

One of the best things that has happened in the fruit belt this season was the heavy rain that fell August 16. The unusual hot weather began to affect the apple crop both in retarding the growth and also in causing a drop. The rain freshened vegetation, and by August 19 the apples were showing up better. This is Nova Scotia's record-breaking year. Some place the number at one and a quarter million barrels of export fruit. True it is that the fruit will almost all barrel, for it is the exception to find spot or wormy fruit.

Another sign of improvement and encouragement is the rapid growth of cooperative shipping associations. In April of this year there were nine societies. Now twenty-three are working, the greater number having their own warehouses either built or in course of construction. There is also a central association formed to amalgamate the individual associations. A man has been sent to the West to negotiate sales of apples and has already placed some 20,000 barrels of Gravensteins at good prices, as well as later fruit.

The Gravenstein crop is simply immense. Every tree in Nova Scotia seems to have a full load. The crop of this variety alone promises from two hundred and twenty to three hundred thousand barrels.

The great problem facing the people of Nova Scotia this season for the first time is the handling of the fruit, not only in picking but also in warehousing and transportation. Prices are a thing of the future, as operators are not in a hurry to quote. R. J. Graham of Belleville, Ontario, who has a number of evaporators through the valley and who expects to have these all running in full blast this season, is also buying apples for export. He is offering \$1.50 tree run, or an advance of twenty-five cents for packed fruit.

Eastern Annapolis Valley, N.S.

Euise Buchanan

The very dry season has caused the apples to ripen much earlier than usual, and fears are entertained as to their keeping qualities. Gravensteins, which as a rule are not picked until after September 10th, will be ready about August 25. Duchess, Astrachan and Crimson Beauty were harvested early in August. One dollar and a half has been paid for Nos. 1 and 2 Duchess. The continued dry weather has lessened the expectations of some orchardists, as growth was arrested and there are more small apples than was at first anticipated. However, so far we have not had bad winds or storms, although quite a lot of apples are dropping from lack of moisture. Still, people are thinning, and there are plenty of fine apples left which have never been so free from spot and worms.

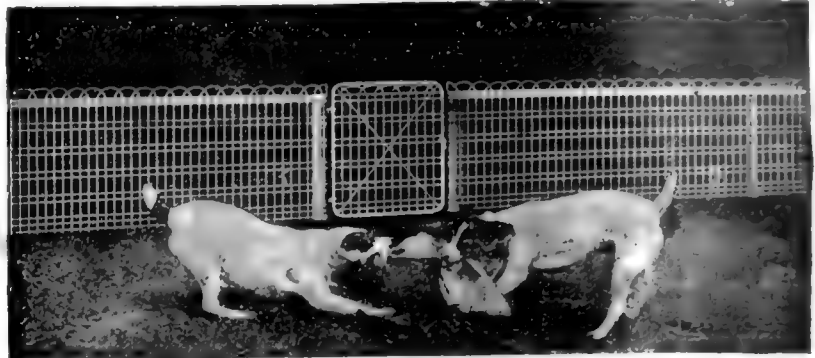
Wasps ate large quantities of raspberries, while many blackberries simply dried up. Cattle have had to leave the pastures because the brooks are empty.

Blueberries (wild) have been selling from seven cents to ten cents a quart, an un-

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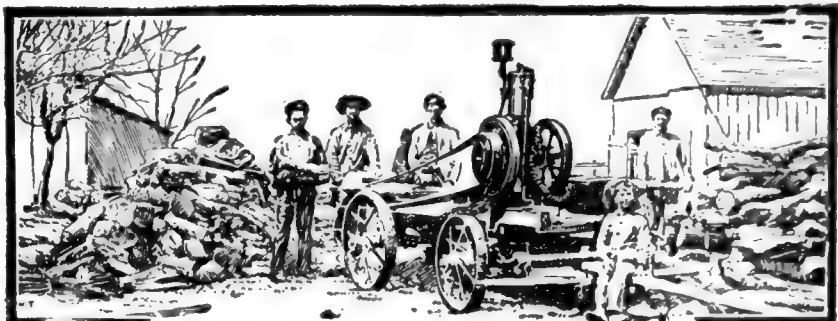
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usual price. Many barrels of apples are going to Western Canada, where packing company agents are opening new markets.

Silver leaf disease is reported in Berwick orchards.

The quality of the tomato fruits is exceptionally good, though green ones are dropping.

Montreal

E. H. Wartman, Dominion Fruit Inspector

The large cities draw from far and near to supply their wants. To-day (August 15) a car of apples arrived from Woodstock, N. B. The variety, Crimson Beauty, graded No. 2. It is a nice, clean, bright red apple of small size—about the same texture as the Astrachan, but not so good in quality. Their cleanness and brightness sold them well.

This apple, if thinned well on the tree, ought to make a good box apple for England. Bright red apples are always in demand, and to date this year they are very scarce. I am of the opinion that the hot waves lasted too long to give color on early varieties. There are many orchards in which you could have hung a thermometer on the sunny side of the tree and it would have gone up to one hundred and ten degrees Fahrenheit. As an old French lady on Bonsecour Market said of her apples, "They be baked."

Eight cars of California fruits were sold at the fruit auction on August 14th. There were peaches, pears, plums, grapes and nectarines. All were sold in an hour and a half at fair prices. The packing and quality of the fruits were both good.

The first shipment of apples for England sailed from this port on August 13th. This is the earliest I can remember. Bright colored fruit, well graded and landing in good order, ought to do well. Fruit has been selling at high prices all season here—too high for many to fill up all their cases.

Quebec Province Notes

E. M. Straight, Macdonald College, Que

The exceedingly dry and hot weather conditions, general throughout Eastern Canada, have been much in evidence in this province. Some sections have not suffered so much, but in the vicinity of Montreal crops have suffered greatly. Small fruits were not at all plentiful. Raspberries were particularly short. They sold in Montreal at twenty cents, and it is reported that they brought much more at retail.

Apples are looking well. There is the prospect of a fair crop.

The experimental orchard at Abbotsford was visited by me recently. Mr. Richardson, the superintendent, had everything as it should be, and the public demonstration in the orchard in the afternoon was attended by many farmers of the section and by a number of representatives from other localities. The trees, by their clean bark and healthy foliage, spoke louder than words.

Just now the farmers are excited over "fire blight" and "melon wilt." These are not new enemies, but some way there are always localities where it makes its appearance for the first time, and others where it is noticed for the first time. Fire blight, or twig blight, is well known and should be readily identified on apples. The young, succulent twigs are brown and dead at this season. The dead leaves adhere to the twig. The disease is internal, bacterial in origin. Sprays are of no avail. Cutting out the affected tissue is the only practical method. "Melon wilt" is also a bacterial plant disease. It attacks melons, cucumbers and

squash. Striped cucumber beetles are responsible for its spread, and in dry, hot weather it spreads rapidly. The affected plants wilt and eventually die. By breaking an affected vine and rubbing the ends together, a certain ropiness will be noticed, when the parts are pulled apart, if the true wilt is present. Pull up diseased vines and burn. Kill the squash beetle. That is all you can do.

The truck farmers around Montreal surely know their business, and it is one not easy to learn. Land is worth twenty-five cents a foot for market garden purposes. These men by their strict application to business have become independently wealthy and are known all over the countryside. Melons—well, we won't say the Montreal melon—speaks for itself. Here is where you may find acres of cold frame. Beside that, we have some ten or twelve acres under greenhouse glass on the island. On the whole the sight is good to look at and not to be forgotten soon.

Macdonald College is offering some special inducements to farmers and farmers' sons to attend the college this coming session. Under present arrangement the cost of a college education is slight indeed, and the opportunity for the young man is great. A card to the Registrar brings full information.

Niagara District Notes

L. Woolverton, Grimsby, Ont.

A succession of disasters has visited the fruit growers of this usually favored section this season. The long extended drought of May, June and part of July made strawberries and raspberries a very short crop. The very bushes of the latter were withered and dried up before their time. Then came high wind storms, which played havoc with plums, pears and apples, covering the ground with immature fruit, too green for marketing; and, to cap the climax, there followed about August first such an electric and hail storm as nobody living remembers the like. Now a large portion of our apples, plums and peaches escaping the wind are cut and bruised by the pelting hail, so that they are rotting on the trees and are so blemished as to be unsalable. Pears, especially the later kinds, are least injured, their form apparently having caused the hail to glance off without cutting the skin, but grapes have suffered most of all fruits.

But worse than wind or hail or drought is a comparatively new evil known as "Little Peach." Akin to Yellows, but different, and if anything, more disastrous. It has alarmed Canadian peach growers lest it should become in Ontario the scourge which it has proved in Michigan, where whole orchards have been destroyed and the trees thrown on the flames lest it continue to spread. In some Ontario orchards hundreds of trees have been already destroyed by command of the inspectors, who claim to diagnose the evil by the color of the foliage and the incur of the leaves. The chief proof to the grower, however, is the small size of the fruit: peaches that should grow to a large size ripening up prematurely, almost as small as marbles.

Noticing some of my Japan plum trees affected in a very similar way, I am wondering whether this foreigner, which brought to us San Jose scale, is not also to blame for spreading Little Peach, a disease unknown before these were introduced. Possibly the pollen of this plum carries the disease to the peach. Anyway I am ordering my men to cut out those plum trees with little, undersized plums, which give rise to my suspicions. I would like to hear from our Michigan peach growers as to whether they



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IHC Service Bureau

The purpose of this Bureau is to furnish farmers with information on better farming. If you have any worthy question concerning soils, crops, pests, fertilizer, etc., write to the IHC Service Bureau, and learn what our experts and others have found out concerning these subjects.

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You have choice of these two styles. Each style is made in several sizes to meet every condition.

Don't plant another crop before you see the IHC local agent. Let him tell you all the facts. Let him point out the many advantages of an IHC spreader. Pick out the one that suits you best. Get catalogues from him, or, if you prefer, write nearest branch house for any information you desire.

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8 BEAUTIFUL HOUSE PLANTS AND 100 Choice Winter Flowering Bulbs All for \$5.00

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- 1 Choice Ostrich Plume Fern.
 - 1 Fine Boston Fern.
 - 1 Splendid Chinese Primrose.
 - 1 Beautiful Cyclamen.
 - 1 Rare Begonia.
 - 1 Fine Cineraria.
 - 1 Strong Asparagus Fern.
 - 1 Large Kentia Palm.
- Our regular selling price of these plants will average 50c each, and some of them we retail at One Dollar each.

BULBS

- 12 Early Narcissus Paper White.
 - 12 Early Roman Hyacinths.
 - 12 Freesia Mammoth size.
 - (The above are for early Xmas bloom)
 - 12 Dutch Hyacinths (all colors).
 - 12 Choice Single Tulips (all colors).
 - 12 Superb Double Tulips (all colors).
 - 12 Double Daffodils a choice assortment.
 - 12 Single Daffodils a choice assortment.
 - 2 Chinese Sacred Lillies.
 - 2 Bermuda Easter Lillies.
- Cultural directions for these Plants and Bulbs are found in our Catalog, which we mail free.
- The above bulbs will give continuous bloom until Easter. Catalogue prices of these bulbs is \$4.00.
- This Order is Not Good after December 15th.

THE HAY FLORAL AND SEED CO.,

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BROCKVILLE - - - - - ONT.

have been growing many Japanese plums and whether they have any reason to think they are in any way blamable for Little Peach.

The whole district between Beamsville and Hamilton along the line of the H. G. & B. trolley is being devoted to fruit growing, but not in large fruit farms as formerly. The one hundred-acre farms are being cut up into ten and fifteen-acre plots and being better cultivated and better pruned and sprayed, and thus several families are better supported than the one original owner, who had more than he could cultivate.

The Benefits of Cold Storage

J. A. Rudduck, Cold Storage Commissioner, Ottawa

If I were asked why I think cold storage is useful in handling late fall or winter varieties of apples, I would put the case something like this: A large percentage of all apples become more or less wasty and over-ripe before they reach the consumer. Now, that is partly the result of injuries which the apples receive in the picking and handling, and it is partly because they are held for a few weeks at too high a temperature. Even our latest varieties are exposed to temperatures which are not sufficiently low to check these life processes in time, and in consequence a large percentage of the apples become over-ripe and wasty before they reach the limit of their season—the season that they may be expected to be good in.

Cold storage will not prevent all this waste. There is as much room for improvement in the handling of apples so as to prevent bruises and skin punctures of one kind and another, as there is in the application of cold storage. If you have your apples perfect, sound in the skin, with no bruises and no punctures of any kind so that the moulds cannot find entrance, winter varieties will keep a long time even without cold storage; but with the aid of cold storage you can extend their season, and those which are not quite so perfect will be preserved in better condition.

Apples keep very much better some seasons than they do in others. I am speaking of the winter varieties. In 1909 it was found that the Northern Spy kept very badly, it turned out badly early in the season. There was reason for that, and I think it was simply this: that at the time of harvesting and after the apples were packed, while they were still in the barrels lying round, the weather was unusually warm, and that meant of course that there was a very rapid deterioration. Now, if these apples could have been chilled, and without any delay, at the time they were harvested, it would have meant a considerable saving to the apple growers and dealers, many of whom suffered great losses in that year, and the warm weather would have been an advantage rather than a detriment.

It is not easy for the individual farmer to provide himself with a good cold storage warehouse, but it is possible for the individual fruit grower to have small ice storages. If I were a fruit grower or was handling apples or tender fruits, I should certainly provide a place of that kind. Of course I think the ideal way would be to have these apples removed at once from the orchards to the cold storage warehouses. In the State of New York—where they need cold storage a little more than we do because their season is somewhat earlier in some districts—along the Falls Branch of the New York Central Railroad

Extract from evidence given before the House of Commons Committee on agriculture.



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Used by all leading apple packers in Canada, United States and England.

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See advertisement of Bissell Orchard Disc, page xiv.

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from the Bridge to Rochester, you will find every little village has one or more big cold storage warehouses for apples. The fruit is taken right from the orchards into these places and stored there. These apples are mostly for the home trade and they are kept in storage until they are required.

SOCIETY NOTES

We invite the officers of Horticultural Societies to send in short, pithy reports of work that would interest members of other Horticultural Societies.

KINGSTON

The Kingston Society has issued a handsome prize list for an exhibition to be held in the armories, September 13 and 14. There will be an admission charge of twenty-five cents for adults and fifteen cents for children. A charge of ten cents is made for each entry, fifteen entries for a dollar. Any additional entries over fifteen cost five cents each.

Prizes of as high as three, two and one dollar are offered in some of the fruit sections. Most of the prizes are on a basis of one dollar, seventy-five and fifty cents each. This basis is followed in the vegetable, plant and cut flower sections. There are fifty-nine classes for fruit, forty-seven for vegetables, thirty-seven for plants and forty-three for cut flowers. The society has held an annual exhibition for several years. The secretary is A. W. McLean, 91 Clarence street.

TORONTO

The invitation of the president of the Toronto Horticultural Society, Mr. MacKendrick, to visit his gardens at his island home, 7 Chippewa avenue, on Saturday, August 19, from three to eight, was largely taken advantage of by the members and their friends. The Toronto Horticultural Society is fortunate in its president. His constructive policies and personal magnetism have brought new life to the faithful organization that has labored so long in the public interest, and his enthusiasm has now given to this society the strength necessary to cope with the problems ahead in the campaign—"Beautify Toronto."

Many amateurs grow too many kinds of plants; they crowd their beds, borders and rockeries with heterogeneous assembly of genera, many of which are of no special value, but at 7 Chippewa avenue the society found gardening interesting and effective. The great flowers had been selected which have been developed by florists, their habits and requirements studied, the beds treated and the plants labelled. The artistic blending of color, the grouping of plants, in fact the general lay-out gives the owner the voice of authority in our councils.

The front grounds were found to consist of a spacious lawn divided by a stone walk to the house, the flowers bordering the front, right and left. A rustic pergola shut out the vegetable garden from the street view, joining the house and running to the south limit of the grounds. The south beds were filled with dahlias, sweet peas, while attractive bloom was admired in the north and west beds, the phloxes coming in for much praise. On the east side of the house a dainty little rose garden in good condition gave evidence of a beautiful perfumed retreat. The writer's visit was made additionally interesting by meeting Mr. Elgin Schoff, an amateur botanist of merit, whose parents were known to him as the floral

BULBS

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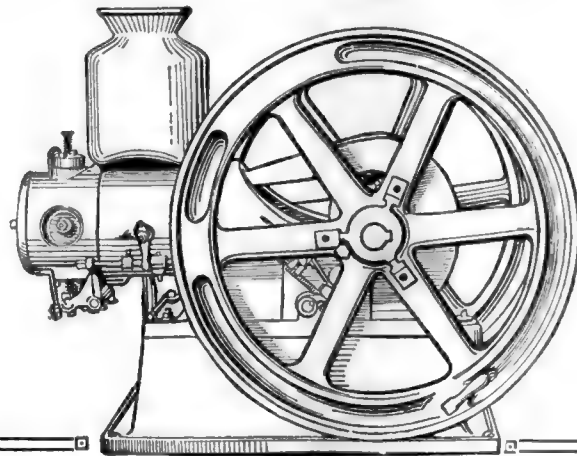
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THE AUTUMN EXHIBITION

About twenty-five hundred people visited the autumnal exhibition of the society in the Allan Gardens. An enormous marquee had been pitched, tastefully decorated with plants from the Allan Gardens, and lit with festoons of hydro-electric lights, while an excellent orchestra was in attendance.

Over four hundred exhibits were registered, a very large increase over the previous exhibition in the early summer. There was a considerably larger number of names in the prize-winners' list. Mr. T. D. Dockray, the society's representative on the Ontario Horticultural Association, secured the special silver medal for August perennials.

OTTAWA

A successful exhibition under the auspices of the Ottawa Horticultural Society, was held during August, when the monthly meeting was also held. In view of the backward season the exhibits were not so numerous as they might have been, but the quality was of a high standard.

The feature of the flower section was a display of sweet peas. Some rare specimens of fruit were staged, both as regards size and formation.

A paper was read by Mr. R. B. White on "Lilies." Mr. Whyte dealt with twelve different varieties which he said he had found to be the best in his long experience. He explained fully the peculiarities and gave some interesting hints as to the time of planting and rearing, emphasizing the necessity for having them as short a time as possible out of the ground. This, he said, was the chief cause of failure because the bulbs got dry and were rendered useless. There was a long list of prize winners.

In Ottawa professional florists are allowed to compete with amateur florists at the exhibitions held by the Ottawa Horticultural Society. Mr. R. B. Whyte, one of the directors of the society, told The Canadian Horticulturist recently that this arrangement has caused very little trouble, in as much as the amateurs generally win because they have more time to give to the growing of their flowers for exhibition than the professionals have. As professionals do not like being beaten by the amateurs they do not compete as often as they otherwise would.

Ontario Apples Won

Ontario apples won a great victory during August, when they captured the "President's Cup" offered at the International Apple-shippers' Convention, held at Detroit, for the most comprehensive display of apples. The Canadian exhibit met with keen competition from displays made by the numerous apple-producing districts of the United States.

The principal points on which the Canadian apples won were "fine quality" and "commercial value." The collection comprised thirty leading commercial varieties, selected from carefully-sprayed orchards. Mr. William Dixon, Hamilton, vice president of the association for Canada, represented the exhibit, and Mr. P. J. Carey, Dominion Fruit Inspector, of Toronto, represented the "Fruit Division" of the Department of Agriculture at Ottawa, in the work of collecting and installing the display.

THE CONTRIBUTORS

From Mr. Carey The Canadian Horticulturist is informed that a number of our leading apple growers assisted in the preparation of the exhibit. A fine lot was contributed by Mr. J. C. Morgan, of the Inde-

pendent Order of Foresters' Home, Oakville. Mr. J. C. Smith, Burlington, furnished many varieties besides assisting to set up the display. As also did Mr. J. Breckenridge, Watertown. Another contributor was Mr. W. C. McCalla of St. Catharines, with apples grown from four-year-old trees. Mr. J. O. Harris, Ingersoll, furnished some splendid specimens from his well cared for orchards. Mr. R. R. Waddell of Simcoe and Mr. W. J. Fuminger of St. Catharines, Dominion Fruit Inspector, rendered splendid assistance in the way of collecting suitable specimens for the display.

Comments by British Importers

During the past few weeks The Canadian Horticulturist has received a number of interesting letters from British apple importers and commission men, containing comparisons of the various packs of fruit they receive from different fruit sections. Ridley, Houlding and Co., of London, Eng., write in part as follows: "The apples that come from California, Oregon, and Washington are of the dessert variety, and are packed in boxes. There is no getting away from the fact that the best apples should pay to come in boxes. The size which finds most favor here is that which allows of being packed from 150 to 200 in a box. There are some Canadian growers who ship the finest of their apples to this country in boxes, and we are sure that they find it pays them well to do so. Apples packed in this way seem to escape damage from bruising, far more than those which are sent packed in barrels.

"When packed in boxes, the apples should be carefully graded, wrapped in paper, packed evenly in layers and a piece of corrugated cardboard put at each end of the box to prevent the outside apples from sustaining any bruises should the boxes be subject to any severe handling whilst in transit.

"In barrel packing, the main thing is for the quality of the fruit to be the same throughout the whole barrel. We strongly advise against sending mixed samples in one barrel. In past years this abuse was very prevalent but there has been a marked improvement, and the cases of complaints as regards the method of packing are now few and far between. Growers who pack their fruit fairly, so that it is quite reliable, will find it pays them best on a full market. There will be a good market on this side this year for high-class apples, which are well packed."

Fruit Crop Prospects

The fruit crop report for August of the Dominion Fruit Division reports but little change in the prospects from previous reports. Hot, dry weather in Ontario has caused varieties of apples to mature about ten days earlier than usual.

In the counties north of Lake Erie the prospects for early and fall apples have somewhat improved. Winter apples promise a medium crop. Along Lake Huron and inland the crop will be even lighter than previous reports indicated, owing to dry weather and wind storms. Lambton county will have about one-half of an average crop and Huron county a light crop of good quality in the best cared for orchards.

North of Lake Ontario a medium crop is expected. The crop is of good quality. Along the St. Lawrence Valley Snow apples will be light, McIntosh an average crop and Duchess, Wealthy and Transparent a fairly good crop.

A bumper crop is expected in Nova Scotia and New Brunswick. The fruit is large and free from blemish.

Any little girl can do the churning with **MAXWELL'S** Favorite Churn.

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The roller bearings—and hand and foot levers—make churning an easy task, even for a child.

All sizes from $\frac{1}{2}$ to 30 gallons.

Write for catalogue if your dealer does not handle this churn and Maxwell's "Champion" Washer.

David Maxwell & Sons,
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An I H C Cream Harvester was put to a year's test at the factory—running steadily for 10 hours every working day. This is equivalent to 20 years of ordinary use, figuring on a basis of half an hour's daily service. Yet in all this time there was no perceptible wear. What better proof of I H C durability can you ask?

I H C Cream Harvesters Dairymaid and Bluebell

have been paying cow owners big dividends for years. Their skimming qualities are unequalled—their ease of turning—ease of cleaning—and durability are easily proved by the testimony of owners. Why not investigate?

You will find that I H C Cream Harvesters are the only separators with dust-proof gears, which are easily accessible. The frame is entirely protected from wear by phosphor bronze bushings. The I H C has large shafts, bushings, and bearings. The patented dirt-arrester removes the finest particles of dirt from the milk before the milk is separated.

I H C Cream Harvesters are made in two styles—Dairymaid, chain drive, and Bluebell, gear drive—each in four sizes. The I H C local agent will be glad to point out the above features and many others, or, write nearest branch house for catalogues.

CANADIAN BRANCHES—International Harvester Company of America at Brandon, Calgary, Edmonton, Hamilton, Lethbridge, London, Montreal, North Battleford, Ottawa, Regina, Saskatoon, St. John, Weyburn, Winnipeg, Yorkton.

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I H C Service Bureau

The Bureau is a clearing house of agricultural data. It aims to learn the best ways of doing things on the farm, and then distribute the information. Your individual experience may help others. Send your problem to the I H C Service Bureau.





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FROM LOOM TO LAWN Regal fencing is woven on our own looms. We are one of the largest buyers on the Canadian fence wire market, our buying price is 20 per cent. lower than that of any other manufacturer. We employ no agents nor jobbers, but sell direct to the consumer, saving you the dealer's commission. Cost of raw material plus the cost of labor plus our one small profit equals our inside price of 8 cents per foot and up.

EXTRA REGAL FEATURES The Regal Oval Top Ornamental Wire Fence marks a new epoch in the Canadian fence industry. Never before has any firm made a fence as good as we make the Regal and sold it at the sacrifice prices we ask. The Regal is beautiful, artistic and durable; it will protect and increase the value of your property; it will enhance the attractiveness of the grounds of any mansion, cottage, farm-house, church, school, public building or park; it won't rust, corrode, sag nor require propping. No matter where you live, it will cost you from 25 to 65 per cent. less than the fence sold through your local dealer. It embodies the following: Uprights, No. 9 wires that are three inches apart and crimped from end to end; line wires, each embrace two No. 12 wires twisted alternately between each stay; special feature, both upright and line wires are doubled at the top. Made in any length desired.

ASTONISHING LOW PRICES By the introduction of new methods, up-to-date machinery and the employing of skilled wire experts, we have cut the cost of manufacture lower than that of any other fence factory. This economy added to our low buying cost enables us to quote the very best inside prices and at the same time offer a much superior fence than you can buy elsewhere for double the money. Prices:

36 inches high—	8 cents per running foot
42 " "	9 " "
48 " "	10 " "

Notice—These prices are for Old Ontario only. For New Ontario, Maritime Provinces and Quebec, add 1 cent per foot. For Manitoba and Saskatchewan, add 3 cents per foot. For Alberta and British Columbia, add 4 cents per foot. This increase over Old Ontario prices is due to the additional freight rates which we pay.
3 foot Walk Gate \$2.75; 10 foot Drive Gate \$5.00

PROTECTION GUARANTEED We guarantee every foot of Regal fence, including its galvanization for 12 years. We challenge comparison. Simply figure out the price of the quantity of Regal fence you require and fill out the order blank below. Upon receipt, we will ship your order, freight prepaid. If your purchase is not entirely satisfactory, return wire at our expense, and we will refund your money in full. The satisfied customer is our best advertisement and business asset.

"Independent; not connected with any Trust."

ORDER BLANK 1-1

Regal Fence & Gate Co.
Sarnia, Canada.

Gentlemen:—

I enclose herewith purchase money to the amount of dollars.....cents (state whether currency, P. O. order, express order or draft) for which you are to ship to me (freight prepaid)feet of Regal Ornamental Wire Fence.....inches high. If it is not satisfactory I am to return the fence to, and at the expense of, the Regal Fence & Gate Co., and get my entire purchase money back according to the terms of the Regal Guarantee.

Yours truly

Name.....

Shipping Address.....

Province.....

In British Columbia the outlook is that there will be a medium to run crop in the Okanagan and Kootenay districts. Early and late apples will be a medium crop in the lower mainland, and winter apples right to medium.

PEARS

In Ontario there will be a good crop of Kievers, a medium crop of Clapps favorite and a light crop of all other varieties. In British Columbia the crop will be medium.

PLUMS

The plum crop has somewhat improved in Ontario during the past month, and a medium crop is now looked for. Hail storms worked considerable havoc in a few localities. In the other provinces the crop will be light to medium.

PEACHES

Peaches generally will be a fair crop, but Early Crawfords will be very light. Smock and Elberta show for a fairly good crop. Yellows and Little Peach are reported prevalent in the Niagara District.

GRAPES

Grapes are looking splendidly in the Niagara District and promise to be a full crop, although in the sections affected by the hail storms considerable loss is reported.

Standards for Judging Fruits

The following standards for judging fruits have been approved by the Ontario Fruit Growers' Association for use during 1911:

APPLES AND PEARS

Single Plates—Form, 15; size, 15; color, 25; uniformity, 25; freedom from blemish, 20. Total, 100.

PEACHES

Single Plates—Form, 15; size, 20; color, 25; uniformity, 20; freedom from blemish, 20. Total, 100.

PLUMS

Single Plates—Form, 10; size, 25; color, 15; uniformity, 25; freedom from blemish, 25. Total, 100.

CHERRIES

Single Plates—Form, 10; size, 20; color, 20; uniformity, 25; freedom from blemish, 25. Total, 100.

SEEDLINGS AND "ANY OTHER VARIETY"

Single Plates—Form, 15; size, 15; color, 20; uniformity, 10; freedom from blemish, 10; quality and texture, 25; season, 5. Total, 100.

GRAPES

Single Plates—Form of bunch, 10; size of bunch, 15; size of berry, 10; color, 10; bloom, 5; freedom from blemish, 20; quality, 25; firmness, 5. Total, 100.

COLLECTIONS OF APPLES, PEARS, PLUMS, PEACHES, CHERRIES AND GRAPES

On Plates—Form, 10; size, 10; color, 15; uniformity, 10; freedom from blemish, 20; quality, 10; commercial value, 10; nomenclature, 5; arrangement, 5; season, 5. Total, 100.

BARRELS: APPLES

Fruit—Size, 10; color, 20; uniformity, 15; freedom from blemish, 15; texture and flavor, 15; total, 75. Package—Material, 4; finishing, 6. Total, 10. Packing—Facing, 6; tailing, 2; racking, 3; pressing, 4. Total, 15. Grand total, 100.

BOXES: APPLES, PEARS, PEACHES

Fruit—Size, 10; color, 20; uniformity, 15; freedom from blemish, 15; texture and flavor, 15. Total, 75. Package and Packing—Material, 3; finishing, 4; fullness or bulge, 4; solidity or compactness, 5; attractiveness and style of pack, 5; alignment, 4. Total, 25. Grand total, 100.

EXPLANATION OF TERMS—FRUIT

Arrangement.—Taste and skill in staging so as to attract attention and add to the general appearance of the exhibit.

Special No. 25. Sent by Express for \$2.50

A Collection of Six Desirable HOUSE PLANTS

Send us \$2.50 and we will forward by express, to your express office, this very choice collection of House Plants. We select these as the most desirable plants for you to buy, chosen from our large assortment; they are full grown plants, now in their flowering pots, healthy, thrifty and beautiful. Our regular selling price of these plants is \$3.60. To make a large number of sales we give this lot, an exceptional bargain, for \$2.50.

- 1 Choice House Fern, Ostrich Plume.
- 1 Choice House Fern, Bostonensis.
- 1 Splendid Kentia Palm.
- 1 Large Asparagus Fern.
- 1 Xmas Cherry (in fruit).
- 1 Fine Cyclamen.

Cultural directions for these plants will be found in our Catalog, which we mail free with this order.

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Seedmen and Florists
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Most people already use
—and always will use—
Windsor Salt. They know
—from years of experience
—that Windsor Salt won't
get damp or lumpy. There
is never even a suspicion of
grittiness about it.

Its clean taste—its crystal
purity and recognized econ-
omy—make Windsor Salt
the prime favorite in every
home where it is used.

Don't pay fancy prices for
imported salt, when Windsor
Salt costs so little, and is so
high in quality.

WINDSOR
TABLE
SALT

Color.—Bright, clear, well developed color, characteristic of the variety.

Commercial Value.—Standard known market varieties, as grown in and suited to the district, preferred.

Form.—In all cases, except seedlings, refers to the normal type or shape of the variety, but in the case of seedlings it refers to shape as desired in a commercial variety. A roundish apple is of the most desirable shape, and oblate and oblong apples least desirable.

Freedom from Blemish.—Any injury by insects, fungus, bruises, loss of stem, or other cause, lessening the value or appearance of the exhibit shall be called a blemish.

Nomenclature.—Exhibits must be correctly named according to the nomenclature adopted by the society, association or exhibition at which they are shown. The use of the standard of nomenclature adopted by the American Pomological Society is recommended to such bodies.

Polishing.—Fruit on exhibition shall have as much of the natural bloom as possible. Judges should discourage polishing.

Quality and Texture.—To be considered in collections, seedlings, new varieties on trial, or other sorts in competition.

Season.—In collections it is desirable to have as long a season as possible represented by the varieties shown. Varieties past condition shown for the purpose of lengthening the season will not, however, score as high as apples in condition though of later season.

Size.—While size in some cases indicates care and skill in production, it is not usually found with the highest color and with freedom from blemishes; and as large size is not as important as high color and freedom from blemishes, the largest fruit should not take the first prize unless it is equal or better in other respects than those in competition with it.

Uniformity.—Specimens should be as nearly alike in size, form and color as possible.

EXPLANATION OF TERMS—PACKING AND PACKAGES

Alignment.—Alignment refers to the rows of fruit in the box—the straighter and more regular the rows the better is the alignment.

Attractiveness and Style of Pack.—When the box is opened the fruit should look attractive. The skill and good taste of the packer is shown in the appearance of the fruit and the style of the pack. There are many styles of pack, but the one should be used which lends itself best to the variety and size of fruit preferred. The fruit should be as nearly alike in size and color as possible. The box also should be clean and attractive looking.

Bulge.—A bulge or swell in the top row of fruit is necessary in order to ensure the fruit carrying well. Before the top is put on there should be a bulge of one and one-half inches in the centre of the top row and the fruit should be one-quarter of an inch above the top of the box at the ends. When the cover is on there should be a bulge of three-quarters of an inch at the centre, at both top and bottom.

Facing.—When facing a barrel, or when beginning to pack a barrel, the apples for the first row should be put carefully in with the stem end down, the stems having been first cut off so that they will not injure the fruit when pressed. If slightly smaller apples are used in the outside rows and larger ones in the centres it improves the appearance of the face. A second row is now put in, in the same manner as the first, and these apples should be arranged so they will show through the spaces between those

in the first row. These two rows constitute face of the barrel. The fruit used for the face should fairly represent the fruit throughout the barrel, but the apples in these two rows should present as attractive an appearance as possible. The law in regard to facing, as defined in the Inspection and Sales Act, is as follows: "No person shall sell or offer, expose or have in his possession for sale any fruit packed in any package in which the faced or shown surface gives a false representation of the contents of such package, and it shall be considered a false representation when more than fifteen per centum of such fruit is substantially smaller in size than, or inferior in grade to, or different in variety from the faced or shown surface of such package. Apples in barrels, for exhibition should be packed as required by law.

Finishing.—By finishing is meant the heading, lining, cleating and marketing of the box or barrel. The heads of the barrel should fit snugly into the chine. For barrels, six rosin nails in each head are usually sufficient. They should be skilfully driven through them and through the top or bottom into the ends of the box. The sides of the boxes should be nailed with four nails at each end of each side of the box. The nails used should not be smaller than those known as five-penny.

Marking.—The marking of barrels and boxes should be distinct and attractive. It should comply with the regulations of the Inspection and Sales Act, which call for the initials of the Christian names of the packer, his surname and his address; the name of the variety of fruit, and the designation of the grade, whether it be "Fancy," "No. 1," "No. 2," or "No. 3." Such mark may be accompanied by any other designation of grade or brand if that designation or brand is not inconsistent with, or marked more conspicuously than, the one of the

COMMON SENSE EXTERMINATOR
Kills Rats, Mice, Roaches, Bed Bugs.
Two Kinds
1—For Rats and Mice.
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BED-BUGS

25c., 50c. and \$1.00. At dealers or mailed direct from
COMMON SENSE MFG. CO. 381 Queen St. W., Toronto.

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Largest collection in Europe, 100,000 plants ready to sell. Seed 25c per pkt. Lists free.

PERRY'S HARDY PLANT FARM
Enfield, Middlesex, England

IRON PIPING BARGAINS

We have over 450,000 feet of slightly used piping just as good as new and first class for water, steam, heating greenhouses, construction, fencing, posts, etc., at 25% to 50% of less than regular value.

NOTE THESE PRICES

DIAMETER	1-2 in.	3-4 in.	1 in.	1 1/4	1 1/2 in.	2 in.
Price per ft.	2c	2 1/2c	3c	4c	5c	7c

Also other sizes up to 10 inches.

Send us a list of the lengths you need and we will give you a special low price on the lot, cut and threaded, ready to put together. We also have enormous quantities of

Wire Fencing, Belting, Pulleys, Cable Rails, New Roofing, Saws, Vices, Forges, etc. at 25 per cent. to 75 per cent. less than regular value. Catalogue on request.

The IMPERIAL WASTE & METAL CO.

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99 QUEEN ST., MONTREAL

THIS HANDSOME FOUNTAIN PEN FOR YOU

Every reader of The Canadian Horticulturist may have one of these handsome, high grade Fountain Pens. Do You Want One?

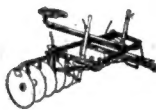
The illustration is an exact full size reproduction of this pen. It is pearl mounted with two handsome gold bands, filled with a solid 14 kt. gold pen and safety pocket clip. Every pen is guaranteed by the manufacturers to give absolutely satisfactory service in every particular, and will be replaced or satisfactorily adjusted in the event of any dissatisfaction within one year. A guarantee certificate goes with each pen.

Those Who Will Get One

Everyone who secures Five New Subscriptions to THE CANADIAN HORTICULTURIST at 60 cents each, and sends them to us together with the \$3.00, will get one of these pens by return mail. There are at least five of your neighbours or acquaintances who would like to take a paper such as THE CANADIAN HORTICULTURIST if you were to suggest it to them, and tell them about the helpful information it contains. You will feel well repaid for the short time spent when you receive this handsome pen. Why not see some of your friends to-day?

The Boys and Girls would be tickled to earn one of these Pens. Tell them about this Offer.

THE CANADIAN HORTICULTURIST
PETERBORO - ONTARIO



Try the BISSELL in your orchard and see what a real orchard disc harrow will do. Stays right down to its work. Has a lever for each gang, so that one gang can be adjusted to cultivate more than the other when required. Attach wings and it extends over 12 feet wide. Reversible—In-throw to Out-throw. Call on local dealer or write Department N for Catalogue.

The Bissell ORCHARD DISC

See advertisement of Bissell Garden Harrow on page 228.

FOR SALE AND WANTED

READ BEZZO'S Import Bulb Advertisement on Page 199.

HARDWOOD ASHES—Best Fertilizer in use.—George Stevens, Peterborough, Ont.

PIPE FOR SALE—All sizes for steam, hot water heating, posts, green house construction work, etc., very cheap. Send for price list stating your needs.—Imperial Waste and Metal Co., 7 Queen Street, Montreal.

GINSENG SEED, 1910, for sale, from five-year plants free of blight. Supply limited.—N. Wilson, Vittoria, Ont.

CHARLES ERNEST WOOLVERTON, Landscape Gardener, Grimsby. Designs parks, house grounds, lawns, fruit and flower gardens, advises patrons on suitable fruit and flowering trees and shrubs either from forest or nursery, and furnishes gardeners to carry out his plans.

WANTED — Position as packing foreman for apple harvest. Experienced in Box and Barrel Packing. References if desired. Apply stating wages, etc., to Box B. Canadian Horticulturist, Peterborough, Ont.

FARMS FOR SALE

NIAGARA DISTRICT FRUIT FARMS.—Before buying, it will pay you to consult me. I make a specialty of fruit and grain farms.—Melvin Gayman St. Catharines.

100 ACRES ADJOINING LIVE TOWN with Collegiate Institute, good shipping facilities, sixty-five acres apple orchard in splendid condition; soil well adapted to fruit growing; large house with furnace, bath and electric light, two good barns. Would subdivide into two parts if desired. Price, twenty thousand.—F. J. Watson, 1275 Queen W., Toronto.

ASK DAWSON. He knows.

IF YOU WANT to sell a farm consult me.

IF YOU WANT to buy a farm consult me.

I HAVE some of the best Fruit, Stock, Grain and Dairy Farms on my list at right prices.

H. W. DAWSON, Ninety Colborne Street, Toronto.

SALMON ARM, Shuswap Lake, B.C. has the finest fruit and dairy land in B.C. No irrigation necessary mild winters, moderate summers, no blizzards, or high winds; delightful climate; enormous yields of fruit, vegetables and hay; good fishing; fine boating amidst the most beautiful scenery, and the Salmon Arm fruit has realized 25 cents per box more than other fruit in B.C. Prices of land moderate, and terms to suit. Apply to F. O. Haydock, Salmon Arm, B.C.

IF YOU WOULD LIKE to purchase a site for a home and fruit farm on good, suitable soil situated in the most favorable and dependable climate in Canada, get Louth-Clinton Peach Area free information and ground floor prices for properties in the coming locality for most profitable fruit growing. Don't miss present bargains—forty thousand mansion and farm for only thirty thousand, a fifty acres for ten thousand; others large and small. Enquire about them. State what you want. W. H. Brand, Jordan Station, Ont.

said four marks which is used on the said package."

Material for Barrels.—The standard barrel must be large enough to contain at least 96 quarts of fruit. Smaller barrels should not be exhibited. The barrel in general use in Ontario has staves 30 inches in length. In Nova Scotia the staves are 28 inches long. The dimensions called for in a standard barrel of minimum size are: Between heads, 26½ inches wide, inside measurement; head diameter, 17 inches, inside measurement; middle diameter, 18½ inches, inside measurement. The barrel generally used in Ontario is 27½ inches between the heads, 17 inches in diameter at the head, and with a middle diameter at the bilge of 19½ inches. A good barrel should have sixteen staves and averaging 9-16 jointing, cut five to two inches and averaging four inches in width at the bilge, and be free from large knots or shakes. The head should not be less than one-half an inch in thickness, dressed clean and sound. The hoops should be about 1 3-8 inches in width and eight in number. The barrel should be new and clean.

Material for Boxes.—The box should be made of material strong enough to withstand handling in transportation. The heads or end pieces should be each of one piece of wood and not less than three-quarters of an inch thick. The sides also should be each of one piece and not less than three-eighths of an inch thick. The top and bottom boards may be one or two pieces, preferably two, but not more than one-quarter of an inch in thickness. They must be thin, so that they will bend readily when the box is closed. There should be two cleats each for the top and bottom. Dovetailed boxes are not desirable. The standard box must be used. This is 10 inches deep, 11 inches wide, and 20 inches long, inside measurement.

Pressing.—Apples are often over-pressed. If the barrel is racked well there need not be much pressing. The proportion of fruit that is injured by pressing will be evident when the barrel is opened. The less fruit that has been injured by pressing the better the barrel has been packed, provided, always, that the pressing given has been sufficient to secure the required firmness. Barrels loosely packed frequently show more injury to the fruit through shaking than barrels over-pressed.

Racking.—All barrels of apples should be racked when being packed, so that the fruit will settle, and the packer thus be able to tail his barrel so that the fruit will carry well. When the barrel is opened the fullness or slackness will indicate how well the fruit has been racked. Over-pressed fruit is usually found when apples have not been racked well.

Solidity.—This may also be expressed by the terms firmness, and compactness. The more solid the pack the better the fruit will carry.

Tailing.—By tailing is meant the putting and placing of the last fruit into the barrel. All that is necessary in good tailing is to have the surface as level as possible with the stem end down when the apples are pressed. The care in tailing will be known when the barrel is open by the manner in which the fruit has been bruised when pressing.

Items of Interest

The fourteenth annual convention of the Canadian Horticultural Association was held in Ottawa August 9 to 11. This association is composed of professional gardeners, flower growers and retail florists. The convention proved most successful, delegates

being present from numerous points throughout Ontario and Quebec and even from Winnipeg. Mr. John Connon of Hamilton, the president, presided. The following officers were elected: President, A. C. Wilshire, Montreal; first vice president, W. Muston, Davisville; second vice president, H. B. Cowan, Peterboro; secretary, J. Luck, Cote des Neiges, Que; treasurer, C. H. Janzen, Berlin, Ont.

The annual meeting of the Ontario Ginseng Growers' Association will be held in the Y.M.C.A. hall, 1087 Queen street West, Toronto, on September 6, at 10 a.m. It is expected that addresses will be delivered by Rev. D. E. Medd of Goderich, P. Menzies of Milton, W. Kilgour of Peterboro, J. Fayer of Galt, J. Nichols of Mono Mills and Chas. Leggatt of Kingsville. Growers of ginseng are invited to attend. The secretary is P. Wilson, 283 Evelyn avenue, Toronto.

It is reported in Nova Scotia that the 'Colonial Corporations, Limited,' a London and Montreal company, proposes to organize a subsidiary company to be known as 'The Nova Scotia Fruit Estates, Limited,' with a capital of one million dollars, for the purpose of acquiring fruit lands and engaging in the business of raising apples and other fruits, in Cornwallis Valley. It is stated that this company is now in communication with the shareholders of the Hillcrest Orchards, at Kentville and other property owners in the valley, for that purpose.

A New Hydrangea

(Snowball Hydrangea—Hills of Snow)

The Hydrangea has always been a favorite garden shrub. We offer a new one which possesses, in addition to its well known qualities, the merit of flowering all summer and is perfectly hardy. Catalogue containing description of it and the best Trees, Shrubs and Hardy Plants free on request.

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Let us know the size of any roof you are thinking of covering and we will make you an interesting offer.

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EXPERIMENT ON CAULIFLOWER

Conducted by R. E. Miller, Varence, Ont.

Unfertilized	Complete Fertilizer	Fertilizer without Potash
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Yield per Acre: 10000 lbs. 16000 lbs. 13000 lbs.

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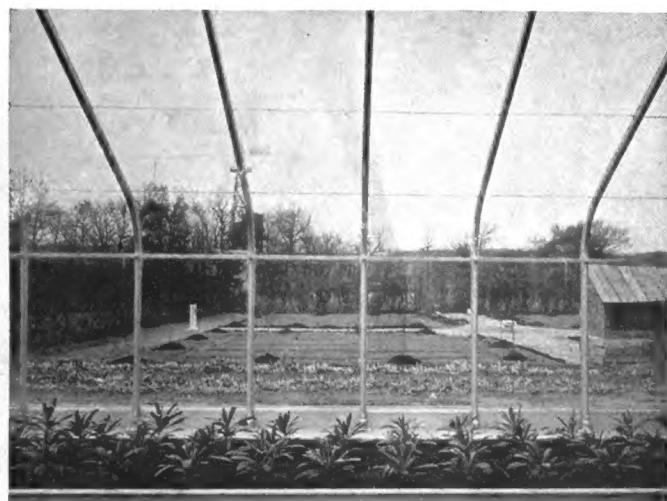
The annual increase in the imports of Potash shows that farmers are realizing the truth of the above statement.

Muriate of Potash and Sulphate of Potash

Can be obtained from all leading Fertilizer Dealers and Seedsmen. When visiting Toronto Exhibition call at our Exhibit UNDER THE GRAND STAND, and talk over this most important question.

Copies of our publications can be had FREE by those interested.

Dominion Agricultural Offices of the Potash Syndicate, TORONTO, ONTARIO



Get on the Inside of a U-Bar House

You can't form any conception of what a U-Bar house is by seeing it from the outside—it is the inside that shows up the bubble-like construction, and not till then do you realize what it means to have no obstructing plate or gutter at the eave—a curved eave, entirely free.

You may wonder how so light a construction can be durable and rigid; but it is because the steel casing of the roof bar gives both great strength to the house and

perfect protection to the bar. No house is as free from exposed parts of wood, none so thoroughly takes care of all condensations. Send for new catalogue—it describes the entire construction in an interesting, fully illustrated way.

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but actual facts. It tells the facts about the organization of numerous rural telephone companies and the success they have achieved, the facts you need to know to organize such a company in your own community, the facts about mutual-company organizations, and about stock-company organizations, the facts about practical construction work and how you and your neighbors can do this construction, the facts about the equipment necessary, the facts about government regulations on the matter—in short it tells you every fact you need to know, from the moment you dream of the possibilities of a telephone system in your community, until the line is actually erected and you are able to talk over it. This is the most complete book of the kind ever published anywhere; it is the one single volume in existence that gives the farmer every detail of information he requires to organize a telephone company and construct a rural telephone line from start to finish.

You owe it to yourself to know all there is to know about rural telephones. Farmers all over the Dominion are organizing companies of their own; if such a company does not already exist in your locality, it is only a question of time until one will be formed and meantime, you should be becoming possessed of the facts.

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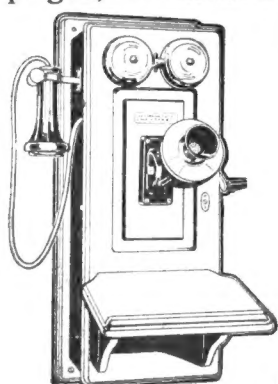
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